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» App reviews » Tips & advice
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Give your homescreen a Material Design makeover

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Discover what you can *really* do with Android

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- » All-new features explained
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20 BATTERY BOOSTERS

Make your phone last longer with these top tips

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ONE TO WATCH ZENWATCH

Android Wear's hottest timepiece tested



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Welcome

The Galaxy S6 is finally here – but will it have the ‘six appeal’ to revive Samsung’s flagging fortunes? Addressing the two biggest criticisms of the S5 – cheap plastic build, too many features – the S6 is a super-slim handset made from airplane-grade aluminum, with a streamlined interface, and a new mobile payment system to rival Apple Pay. Find out what we thought of it when we got hands-on at the launch event from page 14.

On the same day the S6 was announced, HTC also launched its new flagship, the One (M9). While the surprise was ruined by leaks images online a few days before, the Taiwanese company still managed to hold back its biggest announcement: The HTC Vive. Created with games manufacturer Valve, the HTC Vive is a virtual reality headset to play PC games.

However, this is just the beginning for HTC. Find out how its partnering with big names to produce a fitness tracker and more from page 8. Like this? See our review of the 64-bit HTC Desire 820 on page 70.

Can’t afford a new phone? Don’t worry, this issue we’ll also show you how to upgrade your existing device with battery-boosting tricks (page 22) and how to speed up performance and improve graphic quality with clever hacks (page 45). You can also give your phone a Material Design makeover with the best-looking apps for Lollipop from page 26.

Jack Parsons

Jack Parsons
Deputy Editor



MEET THE TEAM

What’s your favourite feature of the Samsung Galaxy S6?



Jack Parsons
Deputy Editor

I am excited to try the S6 Edge’s curved screen. With simplified features it seems a lot less gimmicky than the Note Edge.



Jamie Frier
Staff Writer

The screen’s pixel density is just incredible. 577ppi will make gaming and watching videos fantastic, even if it eats up the battery.



Siobhan Maguire
Production Editor

The super-fast charging battery will be really handy if your out and about and your battery needs a sudden boost!



Adam Markiewicz
Senior Designer

As a long-time Samsung user, I’m impressed by the S6’s metallic redesign. I’m glad it still comes in a range of bright colours.

GET IN TOUCH

What do you think of the Galaxy S6? Let us know!

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Drop us an email and let us know what you’d like to see in the mag

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» Video tutorials

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Stunning wallpapers for Android phones and Chromebooks

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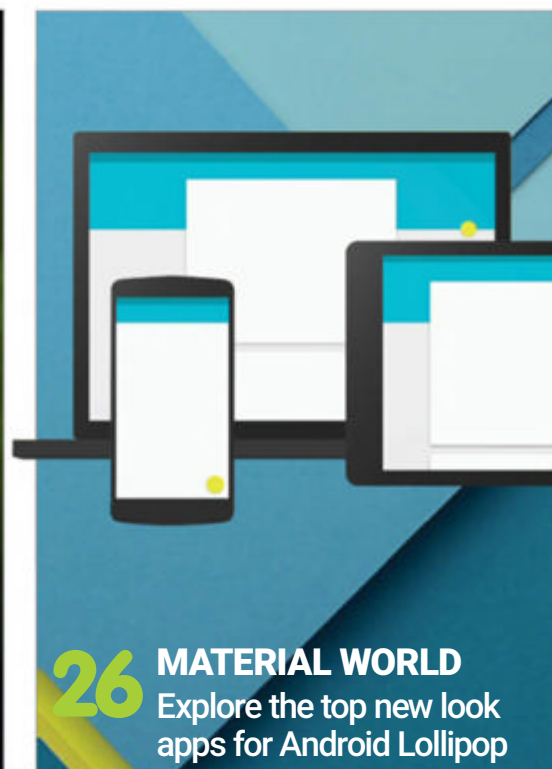


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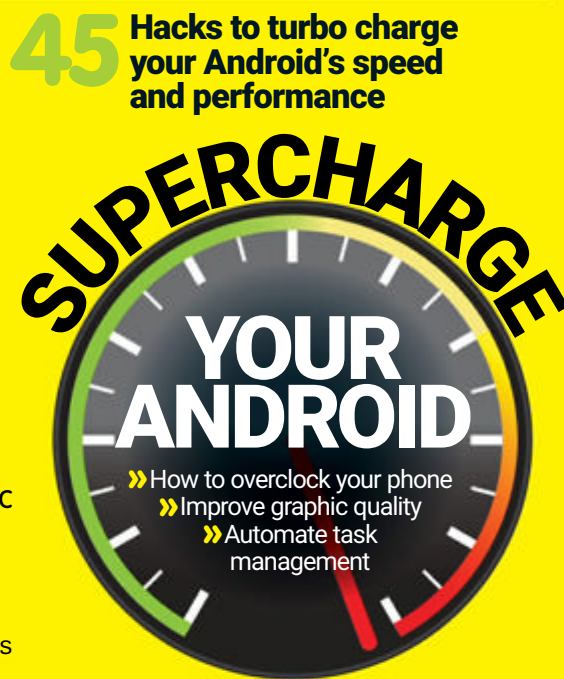


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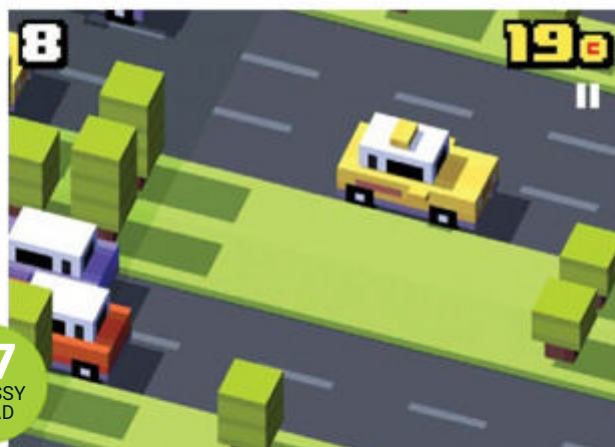
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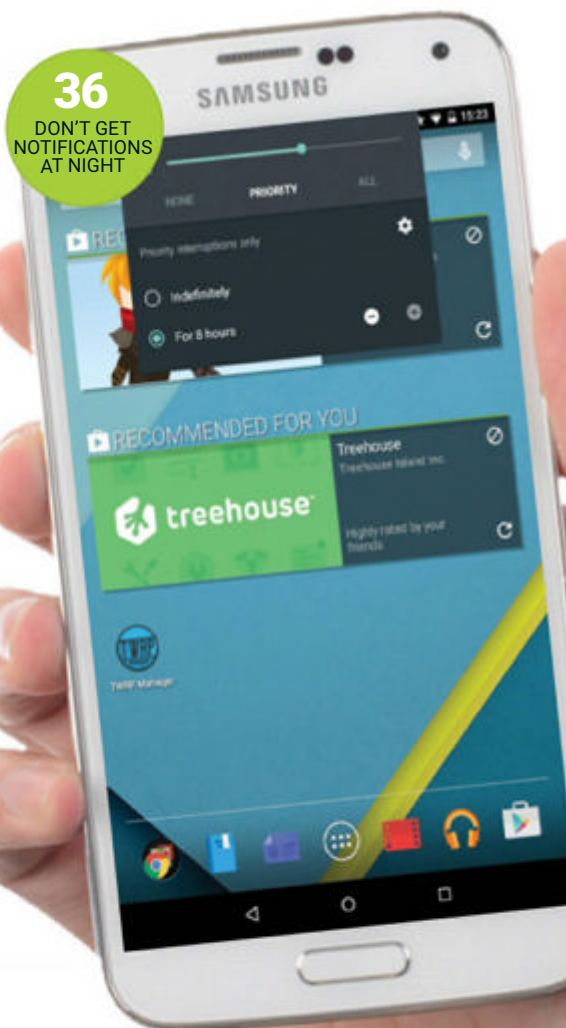
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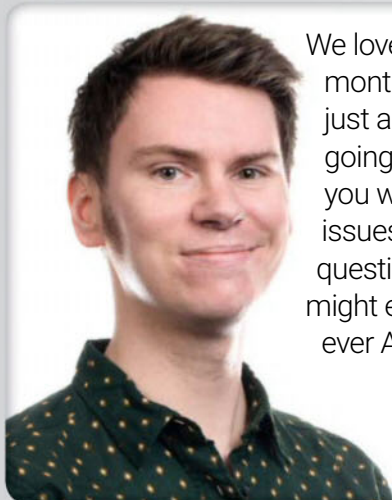
20+ APPS



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DON'T GET NOTIFICATIONS AT NIGHT

Join our **Android** magazine **READER PANEL** today!

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We love writing Android Magazine every month and hope you enjoy reading it just as much. However, this year we're going one step further and want to ask you what you would like to see in future issues. By answering just a few quick questions, you could really help us – you might even be selected to join our first-ever Android Magazine reader panel!

Jack

Jack Parsons
Deputy Editor

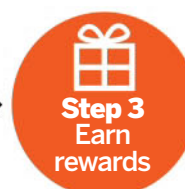


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magazine even better!

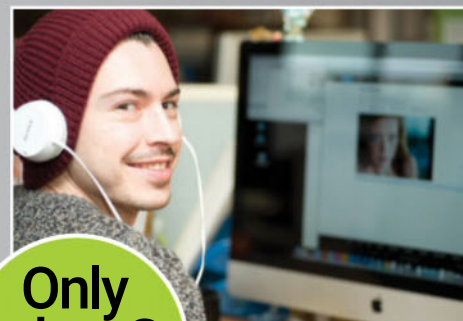


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Launcher

All the latest from the world of Android devices



HTC One to rule them all

Beyond the One (M9), HTC is expanding into wearables, speakers – even virtual reality

Along with the launch of its new flagship phone, HTC surprised everyone by announcing it was developing a VR headset. HTC has partnered with gaming company Valve to create a set of virtual reality goggles called the HTC Vive. This headset will include 360-degree room tracking and refresh at a rate of 90 frames per second, meaning you shouldn't feel disconcerted by lag when moving your head.

The headset will work with two HTC controllers that can be used in different ways, for instance, as

weapons when playing games. As HTC is in partnership with Valve, owners of gaming platform Steam and one of the world's leading developers and publishers, the range of games should be excellent and varied. The developer edition is due to launch in the coming weeks and HTC says that there will be a consumer version available before the end of the year, bringing the world of virtual reality gaming to the masses everywhere.

However, this wasn't HTC's only new partnership. The company also announced the Grip fitness

tracker. This thin, waterproof wristband has been developed in tandem with American fitness clothing giant Under Armour, and will provide huge amounts of vital feedback and data to both professional athletes and casual gym-goers alike.

The GPS-enabled device will track your runs, cycles and gym sessions, providing accurate details about your route, time, calories burned and many more useful features. It also doubles as a sleep tracker, so users can gain valuable information about the length and quality of their rest. Grip will be available in the USA this spring.

As if this wasn't enough, HTC are also seeking to capitalise on the quality of their renowned BoomSound speakers by producing a set of

standalone Bluetooth speakers with established brand Harman Kardon. HTC has made a huge statement of intent with these product launches, setting out to diversify beyond just phones. However, they are also setting themselves up for a battle against some big name rivals.

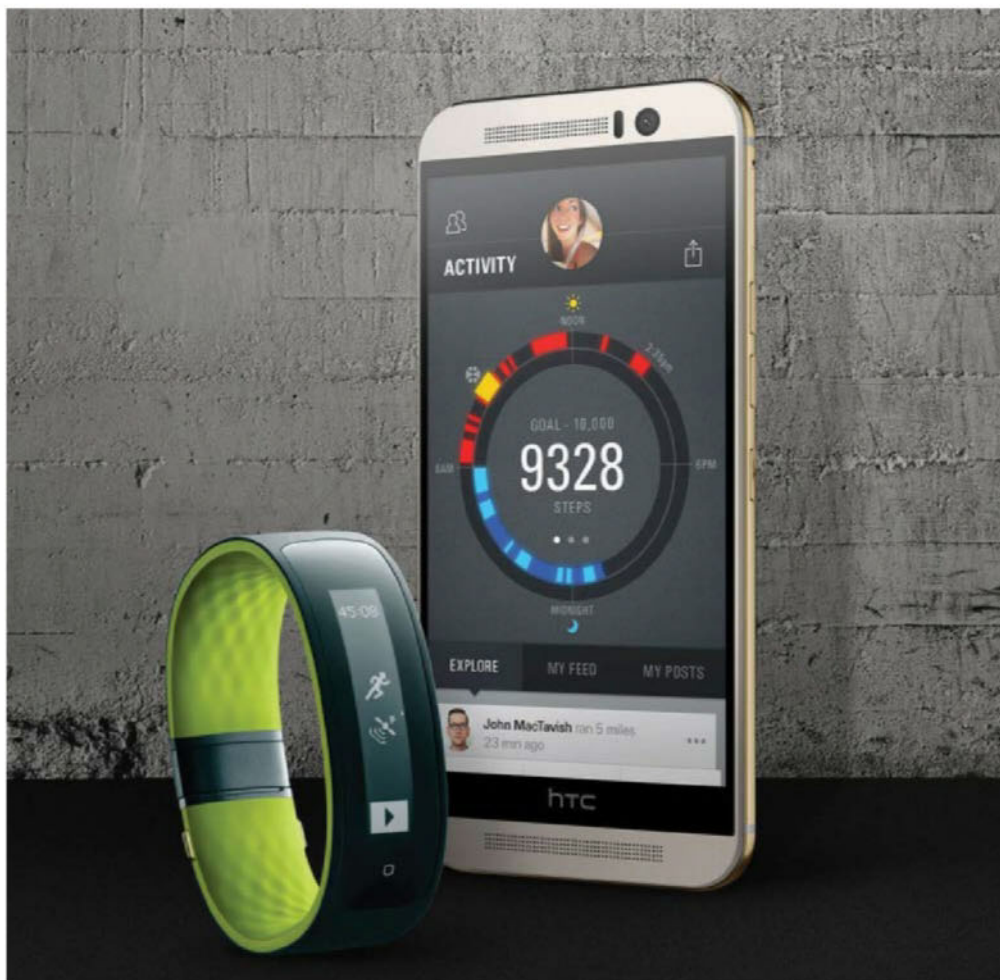
When most people think about virtual reality, their minds will probably turn to either Oculus Rift or Sony's Project Morpheus. While both have yet to launch anything beyond developer kits, they can still be considered market leaders and HTC has made a bold move challenging their authority. However, they could not have picked a better partner than Valve, as just the announcement of their partnership drew a ripple of applause from the audience at the launch event. The raft of games at Valve's disposal should provide Vive users with endless entertainment. The controllers are an interesting addition, enabling users to immerse themselves more deeply into the virtual reality world.

"Our collaboration with HTC is driven by the companies' shared desire to produce the most compelling and complete VR experience" said Ken Birdwell of Valve.

Another string to Vive's bow will be HTC's collaboration with major companies such as HBO, Lionsgate and the National Palace Museum in Taiwan. Content from these suppliers will be part of the full Vive experience, which will provide movies, TV and cultural experiences, as well as the games that we mentioned before.

HTC Chairwoman Cher Wang said that she hoped the Vive will be the VR headset "that completely redefines how we entertain ourselves, communicate with each other, learn and, eventually, how we become more productive. HTC Vive is real, it's here and it'll be ready to go before the start of 2016", which is more than promising.

The Grip fitness tracker, meanwhile, will be taking on the might of Nike's Fuelband as well as the likes of TomTom, FitBit and Samsung, all of whom have



The Grip fitness tracker will be taking on Nike, TomTom and Samsung in the competitive fitness tracker market

their own fitness trackers already. Again, HTC has aligned itself well with Under Armour who are well known and respected in the USA and have an established social network for athletes and fitness enthusiasts called UA Record.

HTC's Drew Bamford said, "Our partnership with Under Armour has enabled us to direct our

combined ambition, talent and passion towards developing new ways to empower athletes to make the most of their training every day."

With serious support from Valve and Under Armour, it will be interesting to see if HTC can enter these competitive markets and establish itself as more than a smartphone manufacturer. ■



HTC Vive vs Samsung Gear VR



Produced in partnership with Oculus, Samsung's Gear VR is the HTC Vive's biggest rival. At first glance, it definitely seems like Vive has the edge. Its 360-degree field of vision outstrips the Gear's 96-degree range and its 90fps would provide a much smoother user experience than the 60fps offered by Samsung. The Gear has an optional controller while the Vive will have two, so gaming-wise it seems like Vive may have trumped its more experienced rival.

There is a lot to be said for being first though, and the fact that Samsung is already offering the Gear and VR apps through an app store means that the Gear has had a huge head start in selling, marketing and fixing bugs. One thing to note, however, is that you need to use a Galaxy S6, S6 Edge or Note 4 to get the Gear VR up and running, while HTC haven't yet revealed how their screens will create the all-important optical illusion.

Google plays doctor

Latest addition to Google Now offers medical advice

Google has added another component to its ever-expanding Knowledge Graph by providing health information in Google searches. Asking Google a medical question brings up specialised information, such as symptoms of an illness, if it's contagious and what age range it affects.

"That doesn't mean these search results are intended as medical advice. We know that cases can vary in severity from person to person and that there are bound to be exceptions. What we present is intended for informational purposes only – and

you should always consult a health care professional if you have a medical concern," said Prem Ramaswami, Product Manager at Google. The tech giant has worked with the Mayo Clinic, a not-for-profit medical research centre, to create a database of over 400 common diseases that concerned Android users can ask Google Now about to research their illness.

Both the benefits and the dangers are clear to see. While it can be useful to know more about an illness you think you might have, you could gain a misguided sense of confidence or panic from the

enhanced information. The professional layout of the information could lead to people trusting them more than they should. The cards look very thorough, with diagrams from licensed medical illustrators, graphs showing the expected age range for the illness in question, a list of symptoms and several more pieces of information. Phil Hagen from the Mayo Clinic said, "As an editor and physician, I know how difficult it is to present concise, useful information. I think these should be viewed as the first stop for those needing health information."

This feature is part of Google's Knowledge Graph, an on-going project to turn Google from a search engine to a knowledge engine, attempting to learn from the millions of searches that go through it every day to become more intuitive. Google is learning what pathways people take after searching for a particular term and has begun to display the follow-on searches online and on mobile devices. The Health cards are just another part of this bid to make searching easier and less of a chore.

Google Health is still very much in the development phase, but there are plans to roll it out beyond the US in multiple languages and vastly increase the number of diseases available to search. Although Google stresses that the Health cards should not replace the doctor, it will be very interesting to see how it is viewed by the medical community in the months to come.



Health apps that you can trust

iTriage Health

» Price Free » Android 2.3



Launched by two ER doctors, constantly reviewed by the Harvard Medical School and downloaded by over 12 million people, iTriage is a very reliable app when searching for illnesses via symptoms.

WebMD for Android

» Price Free » Android 2.3



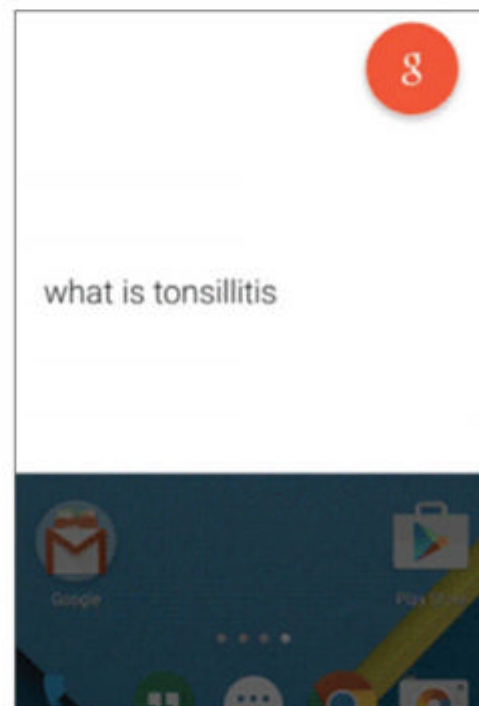
The app version of the first point of call for online diagnosis. WebMD draws together health analysis, tips and information for a huge range of diseases, illnesses and injuries.

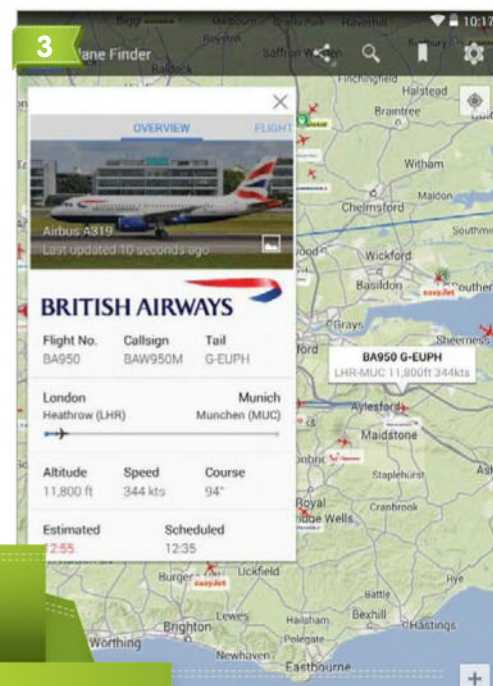
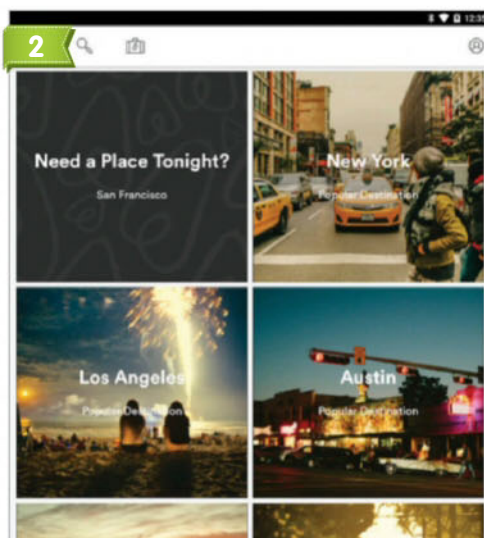
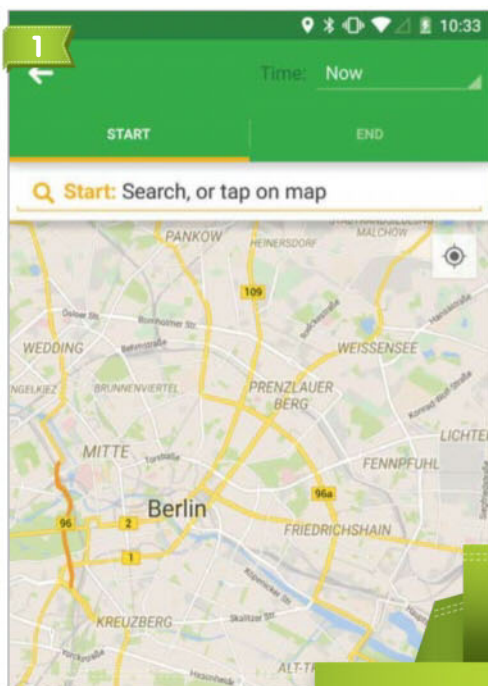
Cardiograph

» Price Free
» Android Varies with device

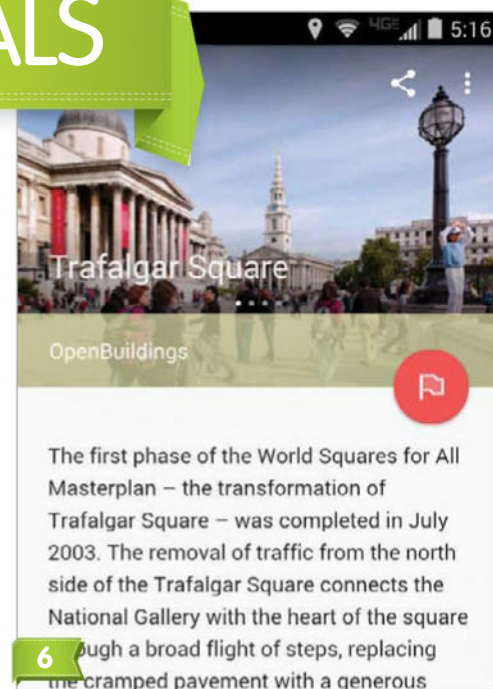
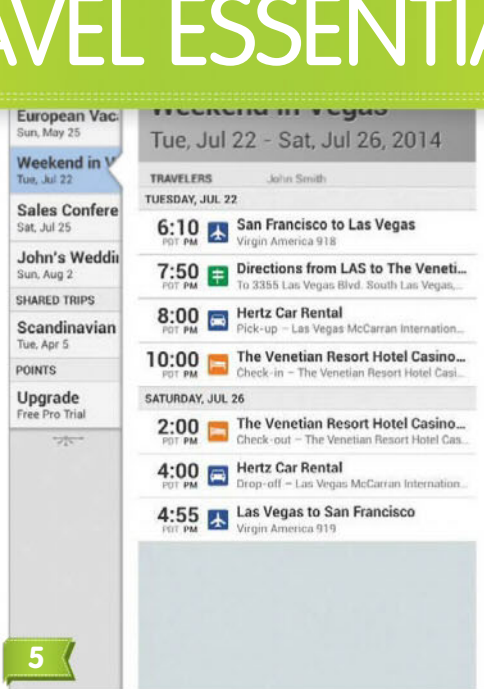
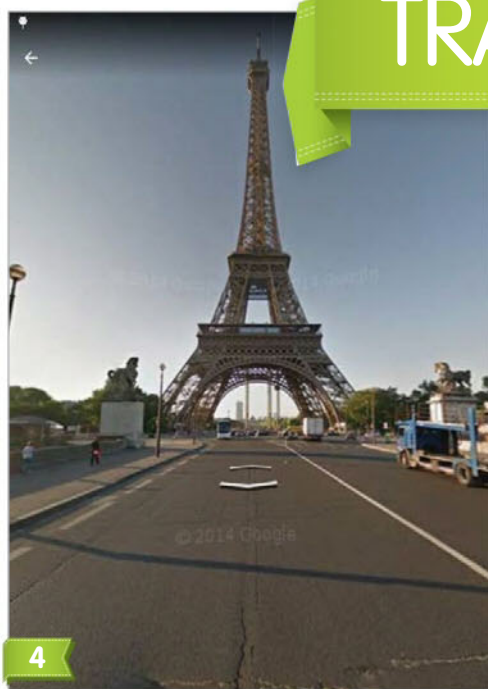


Although clearly not a replacement for the doctor, this is a simple, effective app for measuring your heart rate and recording it during work, rest and play.





GALLERY OF... TRAVEL ESSENTIALS



1 Citymapper

Trying to navigate your own city's transport system can be a difficult task, let alone a foreign one. Citymapper helps you map a journey from point-to-point through many major cities, whether you're on foot, driving or using the local subway.

» Price: Free

2 Airbnb

Need somewhere to stay tonight? Airbnb includes listings for cities around the world that you can book far in advance or straight away. A fun alternative to staying in hotels, you rent rooms and flats from other Airbnb users to rest your head.

» Price: Free

3 Plane Finder

There is nothing worse than discovering your flight has been delayed. Plane Finder lets you track a plane on a real-time map by flight number, place name, airport, airline or aircraft type. You can also receive alerts which is handy.

» Price: £2.99

4 Google Earth

Google Maps is great for turn-by-turn directions when you're in a new place, but Google Earth is brilliant for exploring them before you visit. Featuring immersive photography, you fly through 3D cities and view rural hiking trails.

» Price: Free

5 Tript Travel Organizer

Though it might be looking a bit dated, Tript is still the best app for planning a getaway. Store all of your travel documents in one place and create a detailed itinerary that you can access offline. Pro users can also get useful flight alerts.

» Price: Free

6 Field Trip

A lesser-known Google app, Field Trip scans your location and alerts you to nearby points of interest. Drawing from blogs and websites, Field Trip is great for learning about local history and finding off-the-beaten-track attractions while you are on holiday.

» Price: Free

NEW TECH | Android remote

Qmote

Could this Kickstarter replace Android Wear?

Picture the scene: you're trying to enjoy a Sunday morning lie-in, but then your phone alarm goes off. It's on the other side of the room and out of reach, forcing you to get out of bed. Wouldn't it be great to have a remote control for your phone? Enter the Qmote. This multifunctional remote can turn off your alarm, find your phone when it's missing, turn music on and off, and control all sorts of smart tech around the house.

The size and shape of a guitar plectrum, the Qmote only has the one button, but you can program it to complete any number of functions depending on how many times you click it. These can easily be set up using the free companion app.

Small enough to fit in your pocket or fit on a keyring, the Qmote offers all the conveyance and control of a smartwatch, but without the need to have it manacled to your wrist.

At a glance

- » **Product name** Qmote
- » **Available from** qblinks.com
- » **Price** £TBC/ \$24.99

A single-button remote control which lets you perform actions on your phone, even when it's out of reach



Q & A



Samson Chen
Co-Founder of Qblinks

Where did the idea for the Qmote originally come from?

A We have been working on Bluetooth Smart based technology since 2012 and launched our first Bluetooth Smart product, the Qblinks-Q1, in June 2014. When we first created Qblinks-Q1, we tried making a super light version of a 'smart-watch-like' gadget. We collected feedback from our backers of the unsuccessful campaign to figure out what they did like about Qblinks. Everyone thought we were creating a remote control, so we did.

What else did you learn from this feedback?

A We researched similar products, listed features we wanted to include, and sent them to our backers. We used their feedback to decide which functions to include and examined

how the media reported the unsuccessful product. For example, Qblinks-Q1 had a temperature sensor but the media rarely mentioned it. This was the first feature we removed and we tried to integrate as many features as possible.

How complex is the set up process to program what you want the Qmote to do?

A We're doing our best to keep the setup straight-forward. For the first time user, just press [the Qmote], scan, add and done. Qmote works with laptops as a presentation remote, but people mostly use Qmote with smartphones so you may need to disconnect it from your phone and reconnect it to your laptop for a presentation. However, when the Qmote connects to your phone again it will restore the configuration with the phone automatically.

Doesn't a wearable like the Android Wear smartwatch make Qmote's unnecessary?

A You can only wear one watch at a time but you can have many Qmotos at multiple

locations for multiple purposes. A smartwatch is an extension of the smartphone. For most applications of a smartwatch you still need to look at it – glancing at your smartwatch while driving a car is dangerous. Qmote offers quick actions without watching your smartphone.

A Kickstarter pledge for Qmote cost as little as \$15, how much will it retail for?

A MSRP in North America is \$24.99 and for the EU it is \$26.99.

What other plans do you have for the Qmote's functionality?

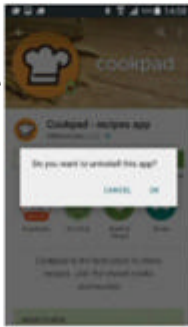
A We have opened Qmote protocol specification to the public. Some people are asking about the SDK, so the next thing for us is to release the software SDK for developers to make Qmote compatible apps. The other request, particularly from Android users, is for Tasker support. Hopefully we will be able to add this soon after we release the Qmote.

Get in touch
Have you got a memory-saving tip? Let us know!



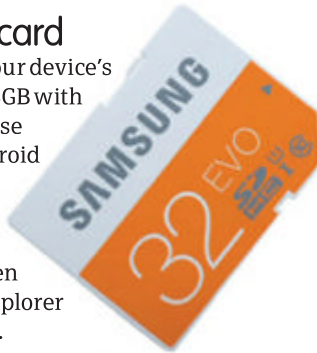
1 Uninstall apps

If you haven't used an app in months and you're running out of storage space, delete it. The Manage Applications feature in Settings will help you sort apps by size, but graphics-heavy games are a good place to start clearing out.



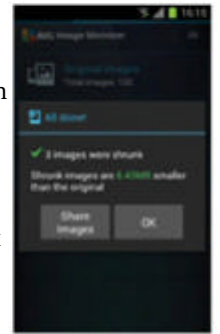
2 Get an SD card

You can boost your device's memory by up to 128GB with a micro SD card. These insert into your Android through a specialist port, so check to see if your phone is compatible first. Then download ES File Explorer to transfer your files.



3 Downsize pictures

All those selfies stored on your phone can add up, so go through and delete those you don't want. Alternatively, use free app AVG Image Shrink & Share to reduce their file size, though this will effect image resolution.



10 The nuclear option

For a fresh start, try a factory reset. Your Google account stores contacts, apps, even Wi-Fi passwords in the Cloud, so setting your phone up again isn't problematic. However, everything else will be gone forever. Go to 'Backup and reset' in Settings to revert your device to its initial set up.



9 Check your Contacts

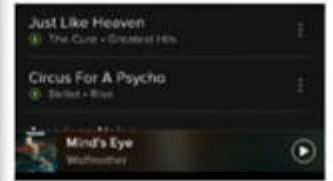
With your Android address book often syncing across your email, Facebook and Google+, you can waste storage on duplicate contact details and old numbers. Apps like Simpler Merge Duplicate will help you find and delete multiple entries of the same contact.



10 you need to know about...
Freeing up memory

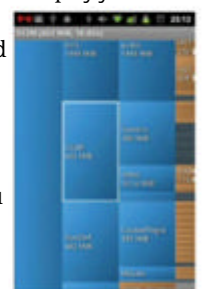
4 Delete music

We all know that music and video files can take up storage space, that is partly why streaming services have become so popular. But be aware: music that you've saved on Spotify and other streamers for offline listening will also use up your memory.



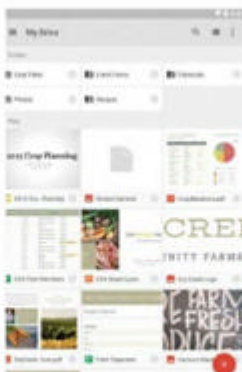
5 Look for large files

It's hard to picture how much memory certain files are eating up. If you look under Storage in Settings, it will display your used storage as a colour-coded bar. However, free app DiskUsage will give you a more detailed infographic.



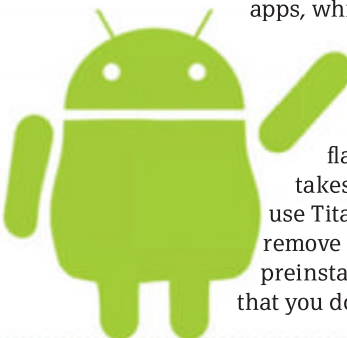
8 Upload to the cloud

An alternative to buying an SD card is to store your content in the Cloud for free, such as Google Drive or Dropbox. Not only does this free up space, but its easy to access content on any other device.



7 Remove bloatware

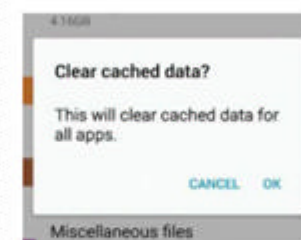
It's a fact that manufacturers often add their own twist to Android with a unique launcher or apps, which can take up a lot of memory.



However, if you have a rooted phone, you can flash a ROM that takes up less space or use Titanium Backup to remove all of those preinstalled apps that you don't use.

6 Clear out junk files

Over time your Android can collect a lot of digital detritus, for instance, APKs (app installers) that might be lingering on your device, temp files, folders and more. Delete these simply by going to Storage in Settings and tapping Cached Data.



Chrome chassis

Out is Samsung's trademark, yet criticised, plastic construction – the S6 is an all-metal and glass affair. A curved metal band surrounds the edges of the phone holding together a glass front and back

Pixel power

The S6 has an astonishing pixel density of 577ppi. It has achieved this by packing the same screen resolution from Samsung's Galaxy Note range into a much smaller screen. However, this could prove quite a drain on the battery which isn't ideal

Toughened up

Both the front and the rear of the S6 are covered with a layer of Corning Gorilla Glass 4, making the device tough and resistant to drops. The American company claims it is twice as strong as the Gorilla Glass 3

Battery size

In these days of bigger is better, it seems strange that Samsung have decided to reduce the battery size. It's gone from 2,800mAh to 2,550mAh but Samsung claims that their extra-efficient processor will make up for the drop in battery power

Slimmed down

At 6.8mm thick, both the S6 and S6 Edge are thinner than the iPhone 6 by just 0.1mm. However, Samsung has made quite a step forward since the S5, shaving 1.3mm from the previous flagship model

Jewel in the crown

Each of the colour options are based on precious jewels. The S6 comes in White Pearl, Black Sapphire, Gold Platinum, Blue Topaz and Green Emerald, so there should be something to suit every taste





Don't get it wet!

Samsung users are going to have to be a lot more careful when using their smartphone in the bath or toilet now. Samsung has removed its waterproof and dustproof feature, so a quick dunk in the bath could now prove fatal to your S6

Quality camera

The 16MP rear facing camera and 5MP front-facing camera can use Samsung's face recognition software, Optical Image Stabilisation and auto white balance to take sharp, bright photos quickly and without using too much effort

Fingerprint scanner

The button on the bottom bezel also doubles as a fingerprint scanner for general security and activating Samsung Pay. The button is wider than its predecessor to make the fingerprint recognition easier, and it now needs just a tap rather than a swipe

S6

CAN IT SAVE THE GALAXY?

Samsung's full-metal flagship is taking the company in a bold new direction. We take a look at what's new

Samsung went back to the drawing board for the Samsung Galaxy S6, which they codenamed 'Project Zero'. The South Korean firm said it had to do this to address past "missteps" following a down-turn in sales and in particular, the failure of the Galaxy S5. The S5 still sold millions worldwide, but didn't have the same impact as previous Galaxy models, and Samsung lost market share to the iPhone and cheaper Android phones.

Critics blamed the S5's plastic cover and too much bloatware. The Galaxy S6 addresses these concerns head-on with a shiny aluminium frame and Gorilla Glass back and front, plus a streamlined TouchWiz interface with 40 per cent less features. Similar to how it launched the Note Edge alongside the Note 4, Samsung have also announced an S6 Edge, with a screen that's curved on both the left and right. Where the Note Edge was gimmicky, the S6 Edge redefines what the curved screen is for, losing complicated apps in favour of intuitive shortcuts.

However, the pursuit of premium design and slender profile have come at a cost. The S6 isn't waterproof and doesn't have expandable storage or a removable battery. Time will tell how Samsung fans will respond to the S6 and whether it can attract new users, but here we outline all of its new features and our first impressions.



Galaxy S6 vs iPhone 6 Battle of the Sixes

There is no bigger rivalry than that between Samsung and Apple. When the two tech giants aren't suing each other over patents, they're poking fun at each other's products in attack ads and at launch events. However, with its new metallic design and mobile payment system, not to mention switching from Qualcomm's Snapdragon processor to their own proprietary components, the Galaxy S6 has a lot in common with the iPhone 6. We take a look at the similarities and differences between Samsung and Apple's flagships and reveal which is doing it better.

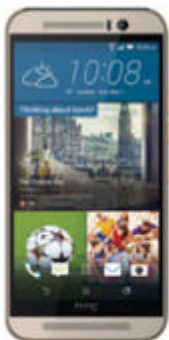


Samsung Galaxy S6

iPhone 6

The S6 has the same 5.1-inch screen size as the S5, but has upped the resolution from full HD to quad HD, with 575ppi.	DISPLAY	The iPhone 6 has a 4.7-inch display with a pixel density of 326 ppi, while the iPhone 6 Plus offers a 5.5-inch full HD screen.
The most beautiful Galaxy ever, Samsung has finally dumped plastic in favour of an aluminium frame with Gorilla Glass sides, while retaining its signature design language.	DESIGN	Apple has long been a master of design, but the iPhone 6 has been rocked by so-called 'bendgate' with users able to bend them in half.
The 16MP rear camera has a dual-flash, while the front has 5MP. It can shoot 4K video and has lots of image-enhancing features.	CAMERA	On paper Apple trails behind Samsung, with an 8MP rear camera and 1.2MP on the front. However, the reality is that the iPhone still shoots a great picture.
Packing an octa-core Exynos 7420 processor and 3GB RAM, as well as a streamlined version of Touchwiz, S6 performance is fast and fluid.	PERFORMANCE	The iPhone 6 runs on Apple's own 64-bit A8 chip, believed to be only 1.38GHz dual core and 1GB RAM, but still remains zippy to use.
Slimmer design means the 2550mAh battery is smaller than the S5's 2800mAh. The battery can no longer be removed but charges wirelessly and much faster.	BATTERY	The iPhone 6 only has a 1810mAh battery, which charges using Apple's propriety Lightning cable. The operating system lacks the battery-saving modes Samsung device's boast.
Winner Samsung Galaxy S6		Samsung's flagship is clearly light-years ahead of Apple in terms of specs, with a brighter, richer screen, faster processor and longer-lasting battery. However, Apple has proven time and time again that usability often counts for more than what's under the hood, so time will tell whether the S6's sleek new look and streamlined OS can win over fans.

...but can it compete with Android?



HTC One (M9)

HTC have been perfecting the metal chassis for years so they can easily match the S6 for clean, modern style, while trumping it with a 20MP rear camera. Though it lacks the built-in memory that the S6 has, the M9 supports microSDs of up to 128GB.



LG Flex 2

One of the few phones more visually striking than the S6 Edge, the curved Flex 2 also has a 3000mAh battery and runs near stock Lollipop. However, it's 5.5-inch screen is only 403ppi, it only has a 13MP camera and also no wireless charging, which is a shame.



Nexus 6

Even with its gargantuan size, the matte plastic Nexus 6 is outshined by the S6's metal finish. The S6 also has a superior screen (577ppi versus the Nexus' 493ppi) and its 64-bit processor benchmarks faster. However, both offer wireless charging.

Super fast charging

When you're in a rush but low on battery, fear not – the S6 is here. The handset charges 1.5 times faster than the S5, so a 10 minute charge will top up the Galaxy handset with enough juice to watch a 2 hour HD movie. Samsung claim that if you leave it plugged in for half an hour it will return to 50 per cent battery strength. Alternatively, you can cut the cord and place it on a wireless charging pad rather than plug into a microUSB. Android fans will know this technology isn't a new innovation – the Nexus 6, Moto X (2014) and Moto 360, all support Qi wireless charging. But the Galaxy S6 doesn't just support Qi, it also works with rival wirelessly charging solution, PMA. With this added compatibility and Samsung's popularity, the S6 is going to make wireless charging mainstream.

“The Galaxy S6 doesn't just support Qi, it also works with PMA”



Phone-charging furniture

Produced in partnership with Samsung, Scandinavian furniture giant IKEA has launched a new range of furnishings with built-in Qi wireless charging pads. Known as Home Smart, the range includes lamps, bedside tables and a coffee table.



Cutting Edge technology

As well as the Galaxy S6, Samsung announced the Galaxy S6 Edge, which has a screen that seamlessly curves around both left and right-hand sides of the phone. Samsung debuted this technology on the Galaxy Note Edge, with a curved screen on the left-hand side that could be used as an app dock and a ticker for notifications. It could even run specialist apps and games along the edge. However, this time Samsung has limited the functionality to shortcuts but added two features.

One called Edge People provides a quick way to bring up calls, texts and other messages from five acquaintances of the owner's choosing. Each person is assigned a different colour, which the phone's edge flashes when it rings, providing a hint of the caller's identity even if the device is face down. Another feature is Information Stream, which displays the time, weather and selected notifications on the curved part of the screen.



Above Edge People enables you to quickly receive calls and messages from your favourite people

Octa-core processing

Can Samsung's own Exynos 7420 out-do the Snapdragon 810?

Amidst reports of the Qualcomm Snapdragon 810 overheating, Samsung has dropped the American brand chip and taken the processor in-house with their very own Exynos 7420.

So how do the two compare? Both models are octa-core but the 7420 runs at a top speed of 2.1GHz, leaving the 810 trailing behind at just 1.6GHz. This is because the 7420 is built on a 14nm process, while the 810 is created on a 20nm process. In simple terms, the 7420 packs the same number of transistors on to a smaller processor, which creates a faster and inevitably more efficient processor.

In terms of benchmarking, the Exynos comes out on top once again. The single core score for the 7420 and 810 were 1520 and 1292 respectively, and the multi-core scores were 5478 and 3604 respectively.

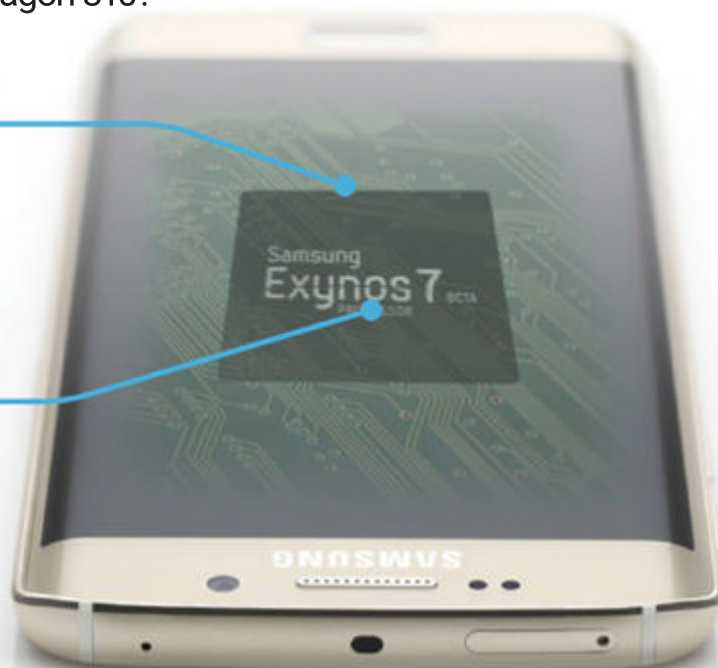
If we put the overheating issue aside, it seems like Samsung have made a good call on choosing their own processor over the Qualcomm Snapdragon 810.

A57 and A53

Eight Cortex-A57 and Cortex-A53 processors both run at 2.1GHz and 1.5GHz respectively

RAM raid

The Galaxy S6 heralds the true age of the LPDDR4 RAM standard



**LIKE THIS?
THE BEST
CAMERA PHONE
REVEALED
ON PAGE 62**



Camera

Is the camera as fresh as the design?

Samsung has put a fair bit of work into both of the S6's cameras. The 16MP rear-facing camera has stayed the same resolution but they have more than doubled the pixel count in the front-facing camera, upping it from 2MP to 5MP. It still has OIS for helping take steadier shots and it now offers face recognition as well.

The two real developments, however, are the aperture and the launch method. The S6 has changed the aperture from f/2.2 to f/1.9, which means it will let in two-thirds more light than the S5 and, probably more importantly, the iPhone 6. It is also much easier to get to the camera than before. The button on the lower bezel now operates as a shutter button. A double click when the phone is still locked captures a picture in an impressive 0.7 seconds, while a single click takes you straight to the camera app, which is a really pleasing development.

Samsung Gear VR

Along with the S6 and S6 Edge, Samsung announced a new version of its virtual reality headset, the Gear VR Innovation Edition, which is compatible with the new flagships. Just as the original version worked by slotting the Galaxy Note 4 into the headset to use as a display, so does this version work with either of the new premium phones. With their unbelievable pixel density of 577ppi, you should be in for quite a ride. The only downside is that the display size will be slightly smaller than the Note 4-compatible version. It remains to be seen how this will impact on the immersive experience, but there should be more that you can do with it. Co-creators Oculus have said that they are going to commit to the Gear VR in a big way this year, with lots more games and virtual reality experiences planned for the Gear VR store.



Simplified TouchWiz

What's gone:

- S Planner
- S Memo
- S Suggest

What's new:

- + Skype
- + OneDrive
- + OneNote

The new TouchWiz has slimmed down for the S6, with less apps and easier navigation

TouchWiz, the skin that Samsung lays over stock Android, has rarely been popular among Galaxy users. Criticised for having too much bloatware that created lag when opening up apps, TouchWiz has undergone a diet for the S6, stripping away 40 per cent of features. The only two Samsung apps that remain are S Voice and S Health, though all of the others, including S Planner, are still downloadable from the Samsung Apps Store if you miss them.

The removal of seldom-used Samsung apps is certainly a step in the right direction for Samsung, as early hands-on tests suggest that the lack of bloatware has indeed sped up and streamlined the UI. Samsung has added in some Microsoft apps to sit alongside the full suite of Google apps, but they don't feel nearly as intrusive. The icons themselves have undergone something of a Material Design make-over as well, looking flatter and cleaner than before. Visually this is very similar to previous TouchWiz iterations but is a lot faster and easier to navigate and customise, stock Android's influence shines through more than ever.

Samsung Pay

Will Samsung Pay trump Apple Pay?

Everyone has their mobile in their pocket when they're out and about, but what about that agonising moment when you realise that you have left your wallet or purse at home just as you get to the till? Samsung is trying to end that problem by introducing Samsung Pay, a direct rival to Apple Pay.

Samsung's acquisition of LoopPay, a mobile payment company, showed their interest in mobile payments. LoopPay claims that it will be accepted in over 90 per cent of merchant locations in the US, which is far beyond any other mobile payment service, such as Apple Pay and Google Wallet. Samsung Pay uses Magnetic Secure Transmission (MST) to turn your phone into a swipe-style credit card, trumping NFC style payments, which are only accepted at around 10 per cent of tills.

Samsung has partnered with Visa, Mastercard, American Express, JP Morgan Chase and Bank of America as it attempts to revolutionise mobile payments.

Right Different to other mobile payment systems, Samsung Pay is also compatible with older magnetic-stripe card terminals as well as NFC terminals

When will it arrive?

Samsung Pay will roll out in the US and South Korea this summer, while Europe and China will have to wait until later in the year to try it out



Samsung Galaxy S6

Hands-On Preview

We tested both the S6 and S6 Edge at the launch event – here's our first impressions

Few devices epitomise love versus hate in the mobile device world as much as the Samsung Galaxy range. The Galaxy S5 has proved to be very much an acquired taste. While Samsung have taken flack for both the somewhat uninspiring design of the device and the increasingly overwhelming Touchwiz UI, long-time Galaxy users have continued to extol the benefits of the removable back, swappable battery, expandable memory, and vibrant hacking and modding community that comes with most Samsung devices. The S6 marks something of a sea change in almost all of these areas, so how does it hold up in our first hands-on here at Samsung's launch at MWC in Barcelona?

Let's talk about first impressions. When you pick up and hold the device's predecessor – the S5 – for the first time, it feels almost utilitarian, particularly if you come from an S4. It's pretty big, the plastic-leather back definitely leans towards plastic and the silver edge of the device would struggle to offer a less convincing impression of metal. Thankfully that all changes with the S6 and the S6 Edge – for the first time in a long time, holding the 'next big thing' actually gives off the wow factor and feels like a positive step forward in the series. With a glass front and back, the phone feels like a premium product, the coolness of the aluminium edge oozes quality and the thinness makes the S6 feels like an impressive piece of engineering. Turn the device on and the vibrant QHD OLED screen really pops, with the best experience of all saved for that innovative curved screen of the Edge version.

At this stage, the curved screen of the S6 Edge is more about creating a first impression than providing genuine long-term utility – it will be interesting to see how the feature is used as it



“Holding the 'next big thing' actually gives us the wow factor”

could create some challenges regarding exactly how you hold the device. It is more than clear to see though, that given the choice between the two, it is likely that most purchasers will opt for the Edge for it's slick, modern screen.

Samsung has taken a lot of criticism in the past for its overbearing interpretation of Android via their TouchWiz UI. True to their word during the launch, they do seem to have slimmed it down significantly for the S6, stripping out a lot of the additional software and leaning more towards Google's stock vision for the OS than ever before. Yes, there are still gaudy icons and excessive settings options but if you are a fan of the Nexus



device experience, you can get closer to it than you have ever been able to previously.

Galaxy devices have always offered Qualcomm Snapdragon processors in most markets together with a variant running Samsung's own Exynos chips elsewhere, but for the first time, all S6 devices will use the 14nm Exynos 7 64 bit octa-core processor. This is very much unknown at this time – in our hands-on the device felt very fast with none of the slowdown that is often experience on devices with QHD screens, but it will be important long-term to see how well the device performs in a variety of different situations, whether there are any heat issues (as has been rumoured for the Snapdragon 810), how the fast charging compares to Qualcomm's QuickCharge and most important, how long the chip can eke out of that new, reduced capacity battery.

The S6s retain the signature home button we're used to seeing from Samsung and again include a fingerprint scanner. The good news is that the frustrating 'swipe' experience from the S5 is gone, replaced with an iPhone-like sensor that in our experience proved 100% reliable, which is a massive improvement.

The new device is not without compromise in order to deliver on the new form factor, particularly in the areas of battery and expansion, which could prove detrimental for some. However, hold either S6 in your hand and you might just believe that it's a compromise that's worthwhile.

👍 Good for

- » Security finally becomes convenient on the S6, courtesy of the updated 'no-swipe' fingerprint scanner which nears iPhone reliability
- » For the first time, Samsung has improved camera quality without bumping the megapixel count. Initial impressions are good

👎 Bad for

- » Heavy users are concerned – it remains to be seen exactly how frugal the AMOLED screen and new CPU are
- » Glass on both the back and the front may mean the device is more likely to slip and to break

» Verdict

The S6 needed to make a big step up and initial impressions suggest that it has



What the industry says

“Samsung has finally made flagship products that look and feel like they are worth the premium price tag they command”

The Verge

“The Samsung Galaxy S6 is a thing of beauty, a complete redesign that really works but blended with large swathes of power once again”

Tech Radar

“It's obvious that this is a different beast, and one that fans have been crying out for, for years”

CNET

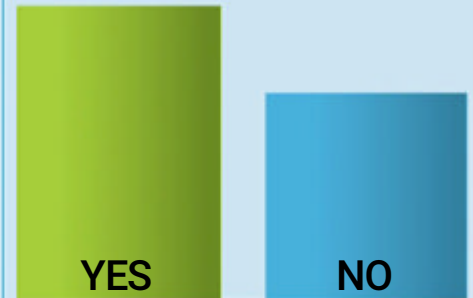
“In combination with the glass back, the metal really gives the S6 that luxurious touch that Galaxy S phones have lacked so far”

Android Authority

“While the lack of microSD card may be an issue for some, the boost in internal storage will remedy that and is in many ways preferable”

Android Central

Reader opinion Would you buy a Samsung Galaxy S6?



Sample based on 46 Twitter and Facebook responses between 2-5 March 2015.

Have your say

What do you think of the Galaxy S6? Let us know via Facebook and Twitter.

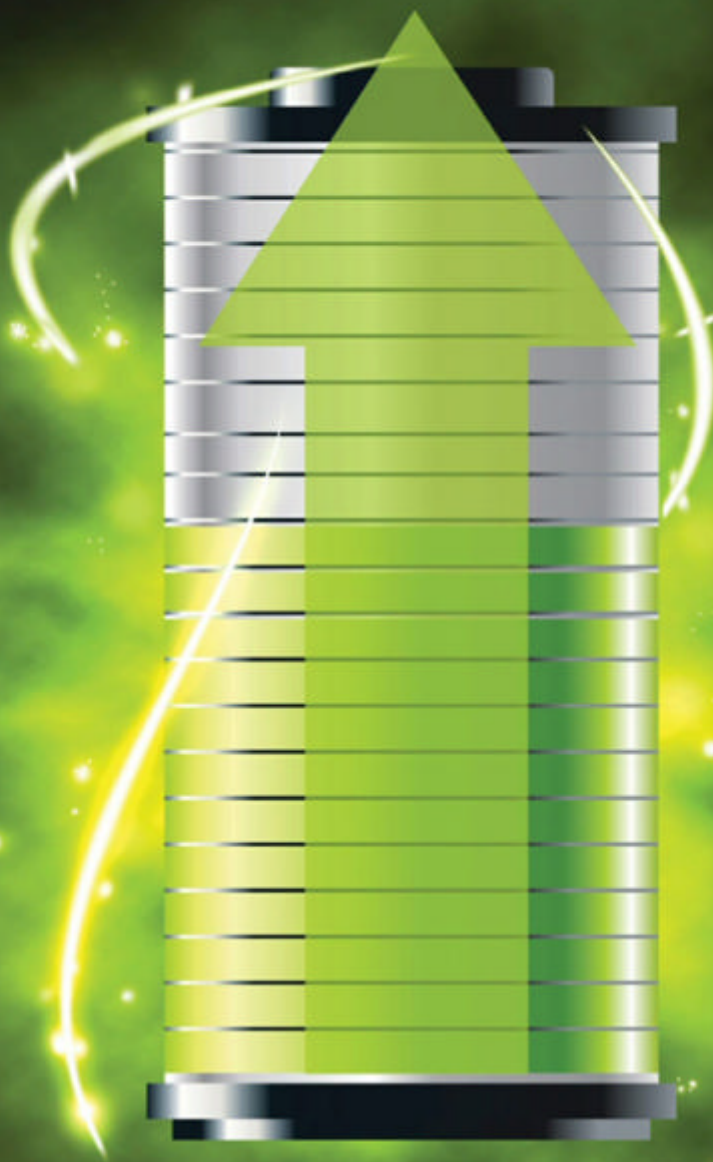
» facebook

[/littlegreenrobot](#)
Like us on Facebook to send us your comments

» twitter

[@lgrobot](#)
Follow us on Twitter and send us your thoughts





BATTERY BOOSTING TIPS AND TRICKS

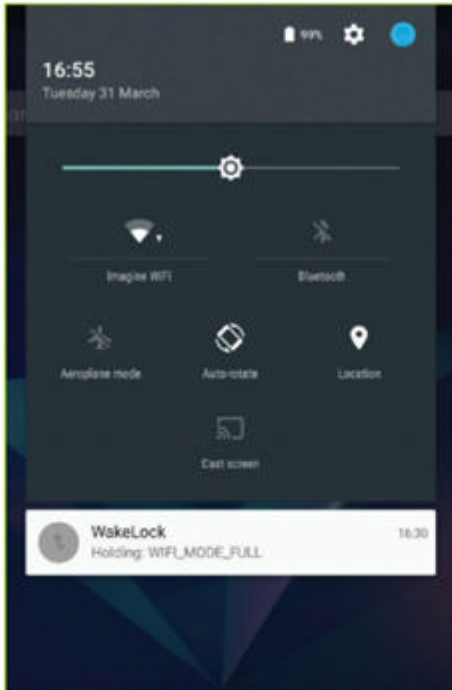
17 ways to squeeze more juice out of your device

There are few things more frustrating than running out of power. Everything from graphic-heavy games to turning on Bluetooth eats away at your battery life, and that drain will only increase as developers come up with even more things for your phone to do. Using your phone as a gaming console, map or portable cinema means that you're going to be looking for a plug socket in no time. Luckily, there are plenty of ways to boost your battery. In

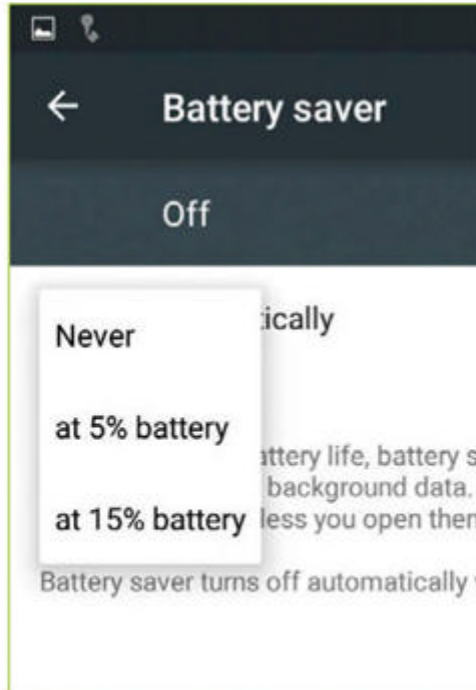
particular, Android 5.0 Lollipop was packed with features to extend your battery life. Known collectively as Project Volta, this includes Battery Historian helps you figure out how your energy is being wasted, and new Power Saver mode will streamline your phone when its short on charge. While apps are often the cause of battery drain, here we recommend downloads that can also make your phone more efficient.

Enable Battery Saver Mode

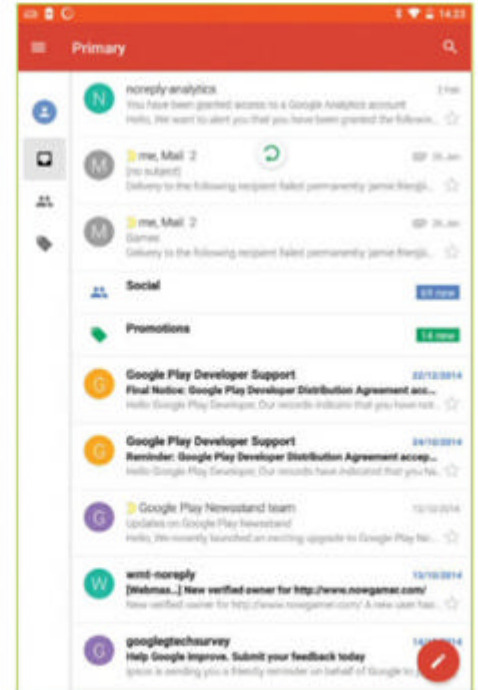
Use Lollipop's latest innovation to keep your energy consumption low



- 1 Enter the Settings**
Pull down the top bar menu and either tap on the battery icon or head into Settings then select Battery. Once you're into the Battery settings page, you should be able to see your remaining battery level. Press the three dots in the top right-hand corner and select Battery Saver.



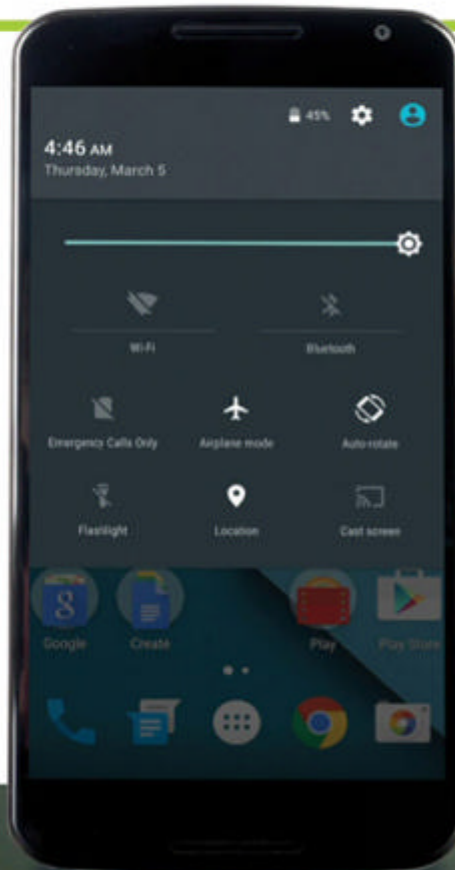
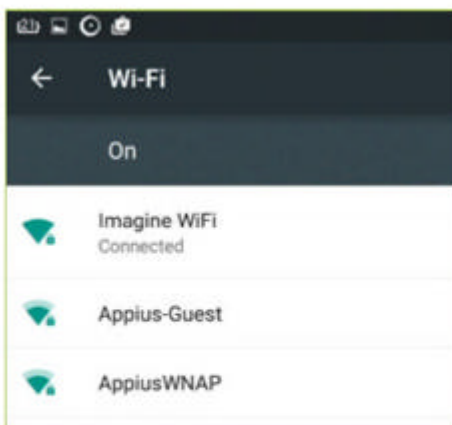
- 2 Save your battery**
You now have two options. The first option is to turn it on manually by tapping the slider. You will know it is in operation as the top and bottom ribbons will both turn orange. Alternatively, you can set it to come on automatically when your battery plummets to a certain level.



- 3 Loss of performance**
You will lose some functionality when Battery saver mode is in operation. Your phone won't automatically scan for Wi-Fi signals, nor will it regularly check for email or social media updates. You'll have to manually go into each app and refresh it if you want to see updates.

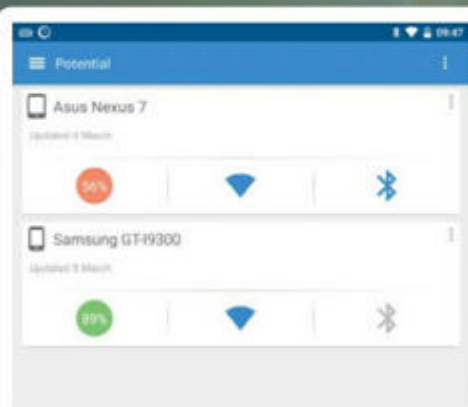
Turn off Wi-Fi

If you're travelling somewhere, turn off your Wi-Fi in quick settings. This way your device won't be constantly searching for a network that doesn't exist, and will save you power. The same goes for Bluetooth. If you see a coffee shop offers free Wi-Fi, you can also switch it back on.



Activate airplane mode

All phones have an airplane mode which prevents your phone from receiving any incoming signals such as calls, texts or 3G data. When flying, this allows you to use your phone without interfering with the aeroplane's instruments. However, outside of the cockpit, this mode means that you keep your phone turned on all night to use as your alarm clock, but it won't eat up valuable battery by searching for Facebook updates while you sleep. In Android 4.4, you can switch airplane mode from the menu options that appear when you press and hold the power button. In Android 5.0, the feature is now tucked away in the quick settings. Just tap the airplane icon underneath the Wi-Fi button.



Monitor multiple devices with Potential Beta

If you're reading this magazine, chances are that you own more than one Android smartphone or tablet. Using Potential Beta, a free app available on the Play Store, you can monitor the batteries on all of your devices from a single screen, for instance, you can view your smartphone's battery from your tablet and visa versa. Set a threshold for what you consider optimum power, and Potential will alert you when any of your devices dip below it. You can then remotely turn off any of your device's Wi-Fi or Bluetooth from in the app, conserving power. Potential is still in the early stages, but plans to add support for Android Wear in the future.



View battery breakdown in Lollipop

Click on the battery icon in Quick Settings to view stats on your battery usage

Usage graph

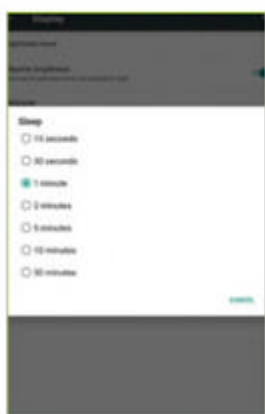
Lollipop tracks your battery life hour by hour so you can work out when you've been using the highest amount of battery power. You can clearly see how long it's been on for and how much time you've got left

The thirstiest apps

The screen also lists the apps that have consumed the greatest percentage of your battery since it was last on charge. Some things, such as the OS and screen, are unavoidable but apps can usually be easily shut down

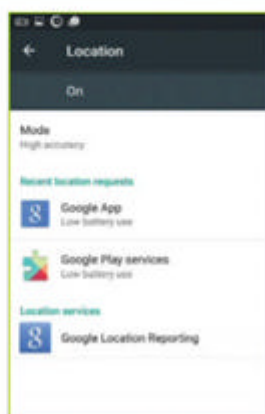
Shutting down apps

The new set up allows you to close down apps from this screen. Simply tap on the app you want to shut down and then you can Force Stop, Uninstall or clear the cache, all of which will reduce battery usage



Drop your screen timeout

Although it's annoying for your phone to fade out when you're in the middle of a message or game, reducing the timeout screen during periods of inactivity can save lots of battery. Shaving just 30 seconds of screen time every time you use your phone will save you a lot of power.



Stop location tracking

If you have location tracking enabled, then your phone is constantly sending and receiving signals from satellites to pinpoint your position. This is a real drain on your battery as it keeps your phone working and awake constantly. Head into your Security settings and turn off location tracking to stop this.



Remove animations

Your animated homescreen may be lovely to look at, but sending all those pixels floating across the screen does take up a lot of energy. Think of it as a very slow, looping video and we all know how much battery that uses. Instead, choose a plain homescreen to save your battery life – you will thank us later.



Weed out widgets

If you've got any widgets on your homescreen that you don't use that often, get rid of them as soon as possible. These widgets are constantly running, so even if the app is closed they are still using up your power and battery. Only keep regularly used ones on your homescreen to preserve your phone's energy.

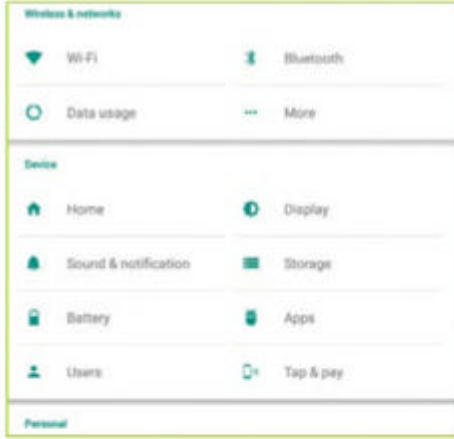


Turn down your screen

The incredible clarity of your screen takes a lot of effort to maintain, especially if it is a Super AMOLED one. Going into your Display settings and dropping the screen brightness down to a sensible level, is a sure fire way to reduce your battery output while not impacting on your phone's performance in any way.

Kill background apps

Clear caches and unwanted apps to make your battery usage more efficient



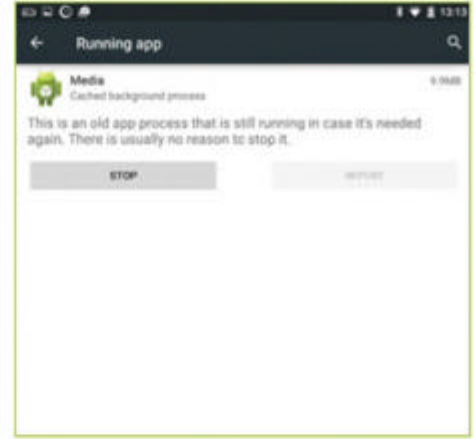
1 Enter Settings

Pull down the top menu and click on the Settings icon. In the Device section you will see a section for apps, which you should click on. This will then take you through to a screen that shows you all of the apps that you currently have running. There may be some surprises!



2 Show Cached Processes

You should see a list of your downloaded apps in front of you. Swipe across until the word Running is highlighted near the top of the screen. In the top right-hand corner you should see a button marked Show Cached Processes. Click on it to bring up another app list.



3 Clear Media

This list shows all the apps that currently have a cache running. While this is helpful to get things moving more quickly, it eats up memory, processing power and battery. Click on Media and select Stop. Repeat for any other apps. This cache will fill up again so do this regularly.

Automate your settings

Tasker is one of the most popular automation apps on the Google Play store, but an excellent free alternative is AutomateIt. It sets up rules that activate under certain conditions, such as turning silent at night or dropping the volume down when headphones are plugged in. All it takes is a few clicks to set a rule based on an activity, time or battery level so you can force it to power down once you hit 20 per cent, thus maintaining battery life for when you need it the most. Set as many rules as you like to make sure your battery consumption is as low as possible during periods of inactivity.



Above: Use an automation tool like Tasker is a great alternative to Lollipop's Battery Saver Mode

Diagnose with Battery Doctor

Apps running in the background are a huge source of pointless battery waste. But you can become battery savvy. Battery Doctor will identify what apps are running that don't need to be and will kill them instantly by redirecting processor power to the task that you are doing and therefore improving battery efficiency. The Task Killer is located in a one-click widget, so you can improve your battery life in a flash without having to close down apps manually one by one. It will also provide information on when to charge your device and more importantly, how long to charge it for. In a real battery emergency situation, you can shut down every function apart from the ability to make and receive phone calls and texts.



Avoid auto-syncing

Whether your Wi-Fi is turned on or not, your phone will still be searching for social media or email alerts. Head into Settings, then Accounts, then switch off Auto-sync to stop your phone searching constantly and using battery.

Mini-charge

Repeated flash charges – where you plug your device in for a short period of time to give it a boost – is the best way to extend its life. Keeping your phone somewhere between 80 and 40 per cent is best.

Don't overcharge

Charging your phone overnight could lead to it overheating and that could damage the lithium-ion battery. Unplug once you hit 100 per cent or keep it well ventilated during charging by taking off the case.

Keep it cool

Scorching temperatures could lose you as much as 35 per cent battery life over a year. Try and keep it as cool as possible by not leaving it exposed to the sun for long periods of time.



Material world

Explore the top new look apps for Android Lollipop

Even if your phone doesn't support Android 5.0, you'll have probably noticed many of your favourite apps have got a new look. All of Google's apps, from Google+ to the Play store, have been redesigned with a colourful new style. Known officially as Material Design, this mixture of bright colours and flattened shapes is Google's new design language. Not only is it a big shift from the *Tron*-like Holo design introduced with Android 3.0 Honeycomb, but it's being rolled out across Android, Chrome OS and the web for a more unified user experience.

Announcing the new approach at Google I/O last year, Matias Duarte, vice president for Design at the Mountain View company, described the new look as: "grounded in tactile reality, inspired by our study of paper and ink, yet open to imagination and magic".

Codenamed 'quantum paper' while in development, Material Design seems to be the logical conclusion of where Android was going when Google Now cards were introduced in Android Jellybean. Card-like menu screens unfold and slide on top of each other, while the interface seems to

physically respond to your touch with a ripple effect, which is pretty smart.

Android has a bad rep for choosing functionality over form when compared to Apple, but Material Design proves this is most definitely not the case – we can now have both. So in light of this development, we are going to round up the ten best apps to complement your Lollipop-powered phone. However, if you don't have Android 5.0 then there is no reason that you can't download these apps and try out the Material Design experience for yourself.

Field Trip



Google Maps is great if you're trying to reach a specific location, but isn't ideal for discovering new places. Field Trip by Google subsidiary Niantic Labs, offers a guided tour of local landmarks and other hidden gems near your location. If you're imagining an off-brand TripAdvisor, then forget it. While Field Trip does include bars, restaurants and

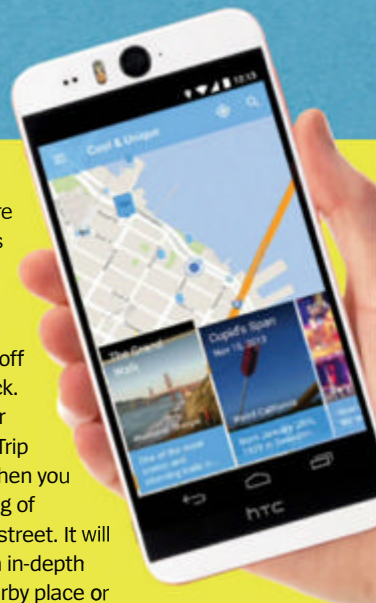
shops, it is more geared towards discovering art, history and hidden gems – things that are off the beaten track.

Tracking your location, Field Trip will alert you when you pass something of interest in the street. It will then display an in-depth profile of a nearby place or event drawn from popular websites, such as Historvius, Songkick and the Food Network.

The way it works means that you don't spend a lot of time navigating the app so a Material Design refresh might seem unnecessary. However, swapping the brown-hued interface based on faded paper and maps for clean, clear orange and white colours, breathes new life into the app and makes it feel much warmer.

The structure has also been rearranged with a new slide-out menu, taking priority for both the various subsections of the app and managing settings. It's now much easier to find local points of interest split up among categories like history, shopping, museums, architecture and more, or you can just tap Everything for a roulette approach to your next outing.

» **Price Free** » **Requires Android 2.3**



Apex Launcher



Don't have Android Lollipop yet, but would like to get the look?

Apex is a good place to start. A long-standing name in the world of Android, Apex was given some Lollipop-inspired changes back in version 2.7 but has been released with a new modern UI with Material Design for version 3.0.

If your smartphone or tablet still hasn't had the Lollipop upgrade, then Apex offers a very faithful imitation. This includes a new Lollipop drawer background and animation. Other Android 5.0-inspired items include: Lollipop folder style and animation, Lollipop search bar and scroll indicator, and the Lollipop drawer icon. It even has a new Material Design icon for your home screen.

Decided you want to tweak the Lollipop layout? No problem. As well as icon packs and theme skins, Apex lets you customise drawers, such as adding unlimited drawer tabs and adding folders to draws. You can also add additional transition effects, overlapping widgets and extra gesture controls as well.

Added to this, there is a new scroll speed option (under Advanced Settings) that sets the speed for scrolling between the home screen or drawer pages. According to the changelog, there are also lots of other UI tweaks and improvements available along with some updated translations.

The Apex Launcher comes in two flavours, Free and Pro. The Free version is fully functional, but the £2.49/\$3.99 Pro version includes lots of extra features, such as being able to place widgets in dock, transition effects and gesture controls.

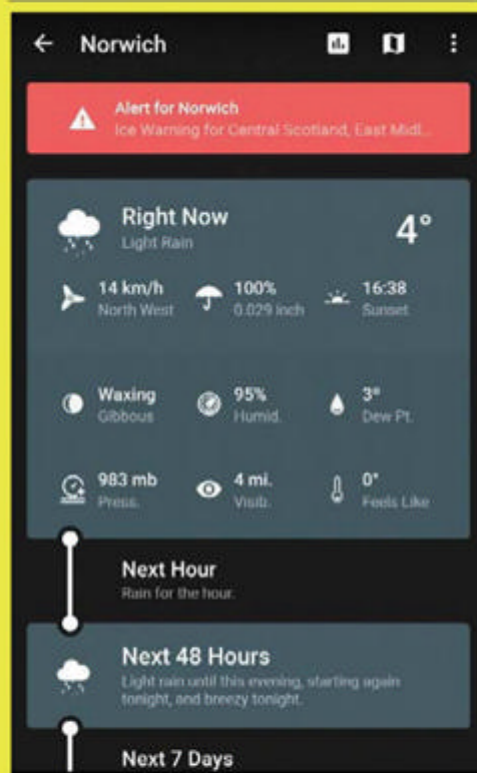
» **Price Free + IAPs**
» **Requires Android 4.0.3**



Weather Timeline



While meteorology is a complicated business, as a mobile user on the go you just want a few simple facts: is it going to rain and what's the temperature. Weather Timeline displays the information you need to know in a clean, clear style that you can understand at a glance. As the name implies, it displays the forecast as a vertically scrollable timeline. The top card contains the current conditions, followed by basic predictions about the next hour and the coming days. Warnings will also cause a new card to pop up at the top of the timeline.



However, a fun extra feature is the included 'time machine' which enables you to search historical weather reports and forecasts projected years in advance.

» **Price £0.99/\$0.99** » **Requires Android 4.0**

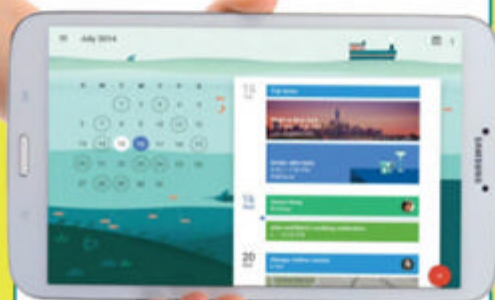
QuickPic



QuickPic has been a go-to gallery replacement on Android for a while. It has a clean interface which makes it easy to use. A

recent update made it even better, with Material Design animations and integrated cloud storage backup. Purists might nit-pick this – though the side panel now slides with a spinning arrow animation, the panel itself doesn't cover the action bar, is slightly transparent and doesn't employ smaller typography for lesser-used items. Also the black-and-white colour scheme is slightly sombre for Material Design and the iconic Floating Action Button (FAB) is missing. But if you're not a fan of Google's Photos app, which integrates Google+ with all of the images on your device, QuickPic is a must-have.

» Price Free » Requires Android 2.0



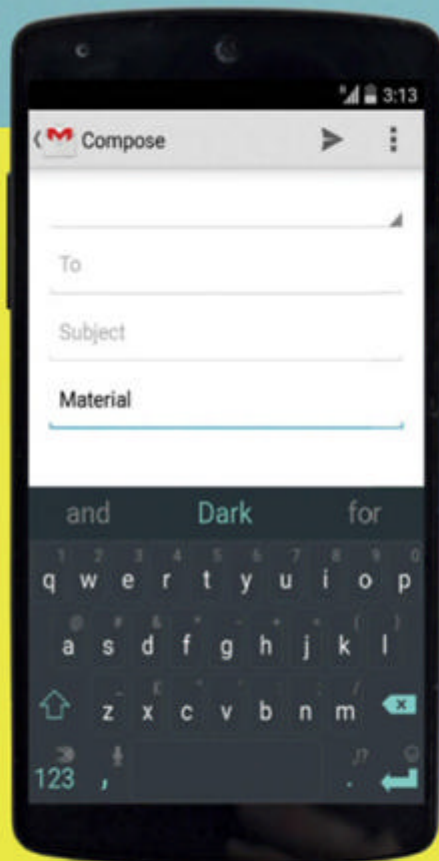
Google Calendar



We've avoided including too many Google apps in this line-up because you probably have them installed already, but

Google Calendar deserves mention. Bright colours, pleasing images and fast, informative animations all combine to make a great calendar app experience. Added to the new colours and animations, Calendar offers interesting features such as Smart Assists – the app can suggest titles, people and places as you type. It integrates with Gmail and Reminders and can offer photos and maps of the place you're visiting. More visible on the tablet version than Google Calendar for phone, the app is also packed with illustrations of everyday events like dinner, drinks and yoga. Google Calendar's full-month view is basic, but agenda list and the home screen widget are wonderfully done.

» Price Free » Requires Android varies



Swiftkey



Everyone's favourite third-party keyboard client was quick to add a series of Lollipop themes to its collection that imitate Material

Design style. Known as the Material series, the themes are available in contrasting colours but have the same functionality. This includes one of the best predictive engines for smarter text autocorrect, as the app learns your preferred writing style as you use it, to the point where it can guess the next word – or even the emoji – that you're going to type. Swiftkey's unique touch controls also make it easy to switch from QWERTY keys to number keys and more, with a simple long-press. The app is free to download but the Material Design themes will cost 69p each or £1.99 for a pack of seven.

» Price Free + IAPs » Requires Android 2.3

“Also in line with Material Design thinking, CloudMagic offers a unified experience across different devices, working on your phone, tablet and Android Wear”

CloudMagic Email

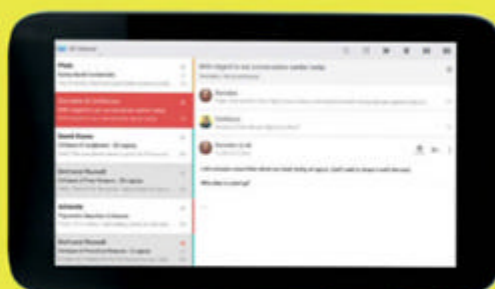


If you like the basics of Material Design but think the official Gmail or Inbox by Google apps are garish,

then try CloudMagic Email. It offers the same one-fingered navigation, with simple interface and slide menus, but with muted tones and less animations. CloudMagic is geared towards cloud storage – it supports multiple accounts so you can view your home and work emails in the same inbox. You can also attach files from your device and Dropbox, Box and even iCloud Drive. CloudMagic also integrates with other apps, such as Wunderlist, Todoist and Instapaper, so

you can save emails however you like and improve your productivity while you're at it. Also in line with Material Design thinking, CloudMagic offers a unified experience across different devices, working on your phone, tablet and Android Wear. You can use CloudMagic Email for free, but a subscription of \$4.99 (approx. £2.25) a month lets you wipe your data if you lose your device and priority support for any problems.

» Price Free + IAPs » Requires Android 4.0



Cabinet Beta



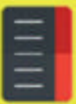
While many file managers require a lot of set up, Cabinet is designed to work right off the bat with basically no configuration – and it looks good

while doing so. Moving around files is easy with quick folder shortcuts and an easy multiselect feature enabled by tapping on the file or folder's icon. An added bonus for superusers is that Cabinet supports root access, so you can navigate system directories and files in an equally slick interface. It also supports SFTP.

» Price Free + IAPs » Requires Android 4.0



Action Launcher 3

 Another launcher, Action Launcher 3, has been given a Material Design update with slick new transitions and animations. In keeping with the design language, a feature called Quicktheme extracts the colours from your wallpapers automatically to customise your layout, changing the colour of folder backgrounds, the Google Search box and more.

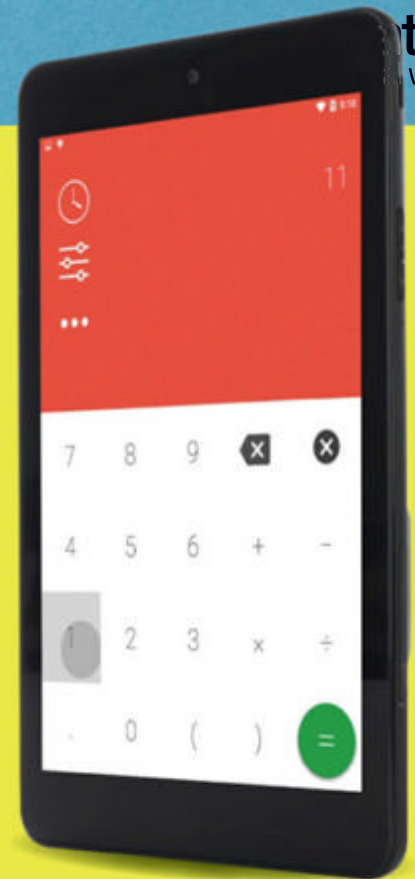
But this launcher, from popular developer Chris Lacy, has never been one to play by the rules. The latest version contains all of those unique features that made previous iterations of Action Launcher so special, such as collapsible widgets and app icons that also act as folders. The app is free to download, though some of the features require a Pro upgrade.

Blurring the lines between an app update and a new release, if you've purchased the Pro

version of Action Launcher 2, Lacy has given you a path so that you can keep your paid app without having to make a separate purchase for the updated version. For those who purchased Action Launcher 2 Pro, it will still continue to function but with a newly released version of Action Launcher 2.

This means that if you have bought Action Launcher 2 Pro, you're good to go – all you have to do is install the revised version of the old app. You will, however, need to migrate over your homescreens from Action Launcher 2 to Action Launcher 2 Pro. The best way to do this is to use the SD card backup feature, which is located in the settings. Meanwhile, the free version has been completely replaced with the refreshed Material Design version, giving you an exciting new interface to begin explore.

» **Price** Free + IAPs » **Requires Android** 4.1



Numix Calculator Pro



Subtract in style with Numix Calculator Pro. Based on the stock calculator app from CyanogenMod, but with a massive UI overhaul, Numix is easier and more rewarding to use.

Following Material Design's guiding principle to make core functionality immediately clear, the intuitive controls make it easy to work out sums and switch between the basic calculator and advanced features with a simple swipe left or right. Numix also includes a helpful widget for the basic calculator. Want to try it before you buy? Then download Numix Calculator Base for a lite version.

» **Price** £0.89/\$1.50 » **Requires Android** 4.1

Talon for Twitter (Plus)



Although Facebook is set to roll one out shortly, none of the big social networks beyond Google+ have given their Android apps a Material Design facelift just yet.

If you love to tweet and want to do so in style, try Talon for Twitter (Plus), a new version of the popular Twitter client designed exclusively for Android Lollipop. Rebuilt from the ground up,

Talon for Twitter (Plus) is faster and more powerful than before, enabling for a smoother experience when refreshing your timeline and moving between lists. It also has beautiful layouts, complete with edge-to-edge images and eye-catching animations. It also includes a whole host of new features, including enabling you to favourite – not just follow – users.

» **Price** £2.54/\$3.99 » **Requires Android** 5.0



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Won't this all cost a lot?
It doesn't have to. Most office programs are free to download and use, but you would have to pay to unlock the full range of features. Some operate on a subscription basis, while others just need a one-time fee. However, if you're just looking to do basic word documents, spreadsheets and presentations you can do everything for free.

» masterclass

Work on the go

Essential apps to run your office anywhere

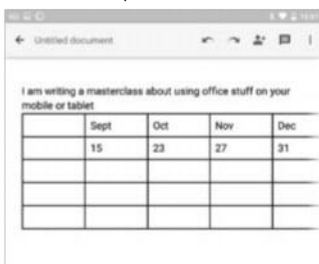
In today's connected world it's becoming easier to access the office, without actually being in the office. Smartphones are powerful enough to perform a range of tasks, such as putting together presentations and holding teleconferences – so the device in your hand could be your ticket to a job without the commute. There are a range of programs for writing documents, creating spreadsheets and producing presentations – Microsoft Office recently launched its free suite of Word, Excel and PowerPoint on the Google Play store. There are plenty more ways to provide yourself with an office on the go,

however. In this masterclass we will show you how to record interviews or important phone calls using the Cogi app as well as demonstrate how to create PDFs with CamScanner. If you really need your office to be based at home, then we take you through document sharing. We'll also explain how to access your work computer from anywhere with Chrome Remote Desktop. We've also got a tutorial on how to set reminders based on your location, so you don't miss a meeting. Your smartphone or tablet could be the key that unlocks you from your desk and we will show you how to use it.

Portable word processors

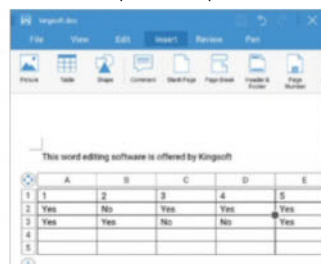
Microsoft Word The original

Microsoft Word is the first program you think of for writing text. Well optimised for Android tablets with an easy access ribbon for editing. Office 365 subscription is needed for full use.



WPS Office Free Secretive data

The word program in this suite is basic but easy to use. Its main benefit is the accessible share button and the fact that it can encrypt your document to keep it safe from potential hackers.



Office Suite 8 Multitasker

This app has a word program that you can use straight away and it provides easy access to lots of formatting tools. It also enables you to import PDFs into a document, which could prove useful.



5 tips for keeping work files safe

1. Protect your work

Always back up. While your workplace will have safeguard after safeguard, a crashed phone might lose you all of your work. Ensure that you've backed up your documents to the cloud, Google Drive or your SD card.

2. Watch your data use

Keep on top of your data. Sending attachments over email, communicating via Skype and downloading documents all cut through your data allowance. Be sure to turn on your Wi-Fi or set up an alert system for when you are close to your allowance.

3. Steer clear of large files

Be aware of file sizes. PDFs, videos and picture-heavy documents can all be hefty sizes. Try and upload documents to shared drives or the cloud because emails usually have file limits and a big file could clog up both systems.

4. Don't overload

Don't take on too much. Although your device probably has a sizeable storage capacity, you could quickly use up your memory once you start working. When you've finished with something, save it somewhere else and delete it to keep your device working smoothly.

5. Take care

Be careful when sending sensitive documents via Wi-Fi, especially if it's a public connection like a café. Data can easily be stolen so if you have to use public Wi-Fi, use encryption software to keep your files secret from hackers.

App used » Microsoft Excel for Tablet Works with » Android 4.4 and up

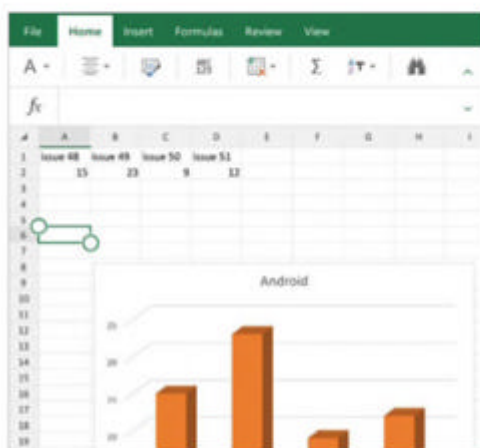
Share and edit Excel documents

Make sure the spreadsheet you're sending isn't read-only

Few things are as frustrating in the office as a read-only document.

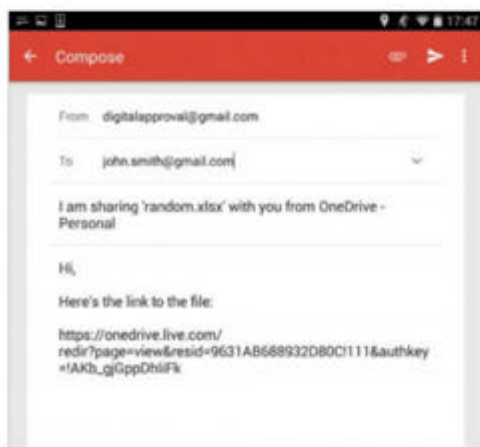
Needing to make a change but being unable to is very annoying, especially if the person on the other end isn't in the office. Therefore, it's useful to know how to

send documents that can be edited. The Microsoft Excel for Android program can do this, meaning that you don't need to be in the office to get your spreadsheets seen, and you can also ensure that your work can't be tampered with by sending it read-only.



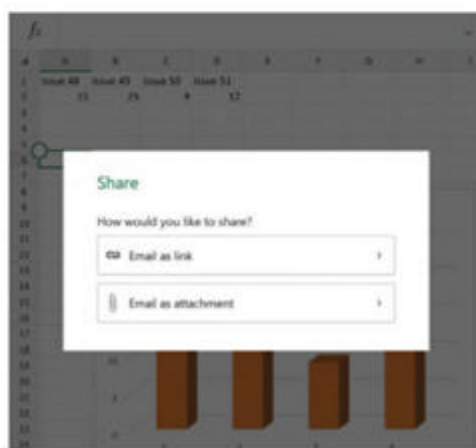
1 Create your spreadsheet

Load Excel, click new spreadsheet and create the document to send. Once finished, save it by pressing the disc in the top-right corner and name it to make it identifiable to the recipient. If you're sending an existing spreadsheet, just click on it in the home page.



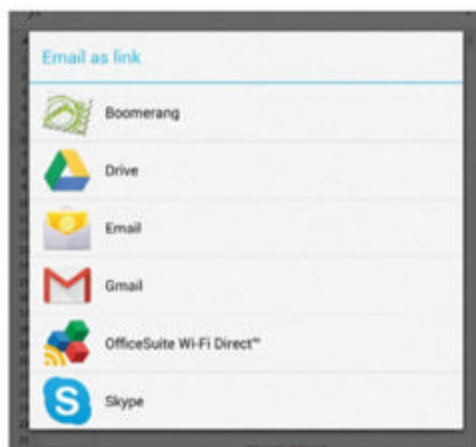
3 Choose your option

If you choose to send your spreadsheet across as a link, a second option will pop up asking if you want to send it as a view only file or as a copy that can be edited. Select your chosen option. If you want to send it as an attachment, select that option instead.



2 Share the spreadsheet

In the top right-hand corner, click on the small person with a plus sign in front of them. The pop up box will give you the option to email the document as a link or spreadsheet. The link option will open the document up in their One Drive file while the attachment will open it in Excel.



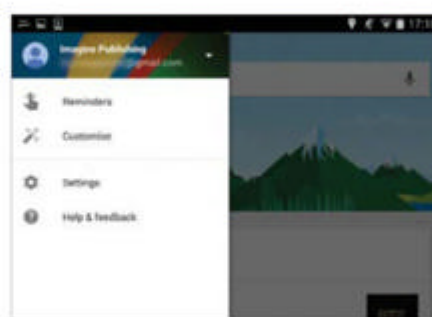
4 Send the email

Either of the three options will bring up a range of delivery options. The simplest is usually Gmail, but One Drive will be the best one to sync up with the Microsoft Office program. If you are in close proximity, you could also send it straight to someone else's device via Bluetooth.

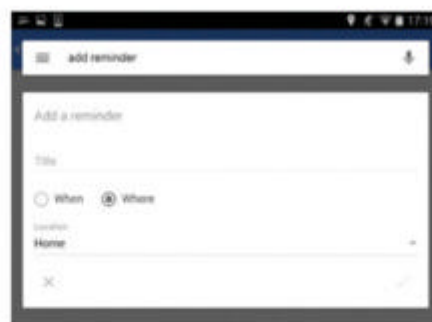


Trigger your memory based on a place, rather than a time

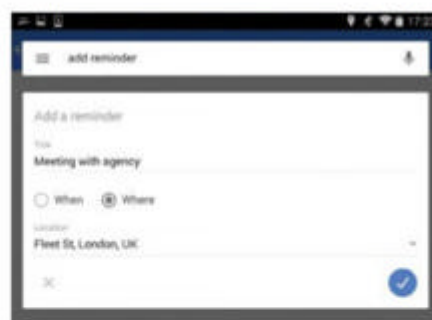
How to set location reminders



1 Open up Google and press the three horizontal lines in the top left-hand corner of the screen. This will open up the menu. Press Reminders.



2 The program will automatically set a reminder to go off at a particular time. Press the button next to Where to open up the location option.



3 Tap the downward arrow on the right. This gives you the option of Home, Work or typing in a place yourself. Press the tick when you're done and the reminder is set.

App used » CamScanner Works with » Android 2.3 and up

Save documents as PDFs in a snap

Make and receive PDFs with the CamScanner app



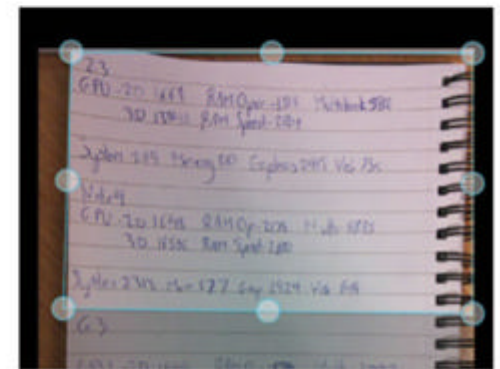
PDFs are important in a world where there are multiple programs for writing documents. Transferring documents from one device to another could incur readability problems if one device uses one Word program and another uses a non-compatible one. PDFs bypass this problem by making documents readable on any device that has the free Adobe software installed. CamScanner is an excellent app

that can take photos and transform them into PDFs as well as turning word documents into PDFs too, giving you the option to crop, rotate, resize and send your documents in a variety of ways. By making your mobile into a scanner, you can work from home and still keep your colleagues informed. We'll show you how to do all of the above, as well as sharing PDFs with your contacts and importing existing photos to convert to PDF.



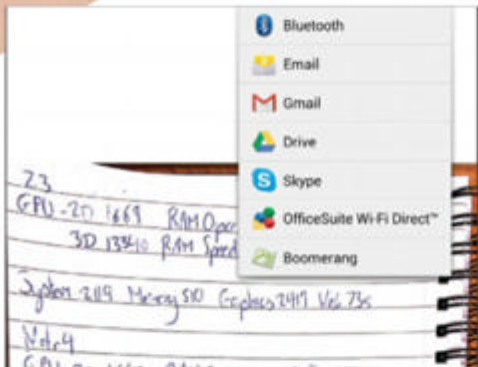
1 Get started

Download the CamScanner app from the Google Play store and add the InNote plugin as well so you can add notes to your documents. Press the three lines in the top left-hand corner, go to Settings and then sync the app with your One Drive account.



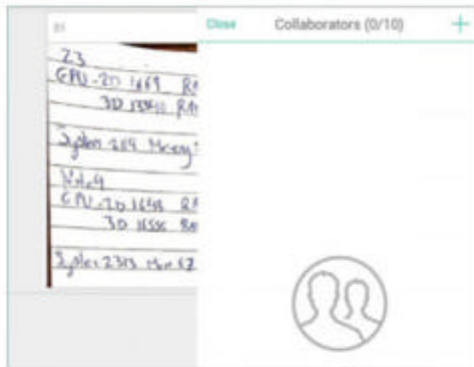
2 Take a picture

Press the camera icon in the bottom-centre of the screen. After taking your photo, CamScanner will give you the option to crop your picture which you can do by sliding the circles up and down and rotating the image to your liking. Press the tick when done.



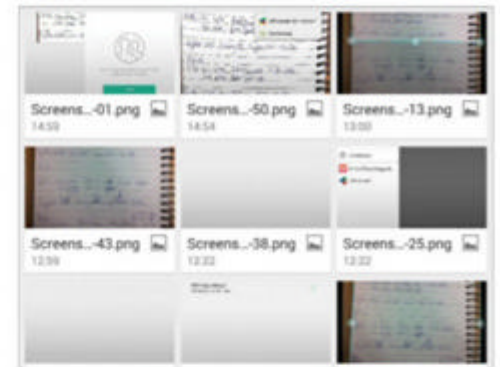
3 Share the document

Press the PDF icon and the top of the screen should show an option to share. This will enable you to send the document via a range of methods, including Gmail and One Drive. Selecting one of these options compresses the file down to a manageable size.



4 Add collaborators

Press the three dots in the top-right corner and choose Add Friends, which will bring up a side screen. Press Invite to enable others to view and comment on the document. The menu in the top-left shows you the documents that you have received.



5 Import your pictures

You can easily select images and files to import. Press the three dots once again and choose 'Import from Gallery'. This will bring up all of your existing pictures and files. Select the file you want to view, convert and share from your list and it will then appear in the app.

App used » Cogi Works with » Android 2.3.3 and up

Take meeting minutes

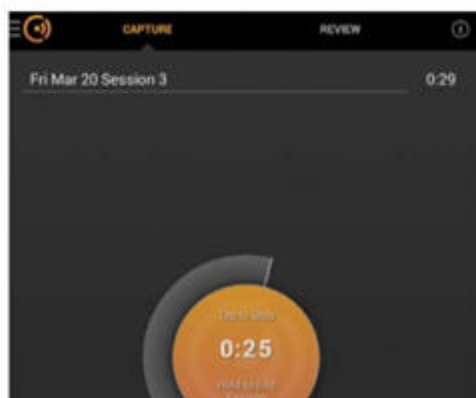
Forget shorthand! Record meetings in detail with Cogi - Notes & Voice Recorder

Dictaphones have long been the staple of anyone wanting to record audio. However, using one with a phone could get awkward and loss of sound could be a real problem. Then phones started including voice recorders on their devices but they were fairly limited. There are now a range of apps that can record directly onto your phone and perform a number of extra tasks to help you with recording and transcribing interviews. This would be of great benefit to people whose job includes interviewing or if you are simply receiving instructions from your boss that you don't have time to write down. This tutorial will show you how to record audio with Cogi, write notes during your interview and ensure that you never miss a crucial piece of information.



1 Set up a call

Download the Cogi app from the Google Play store. Open it so it's ready to start as soon as you start your phone conversation. Make your call and nip back to the Cogi home screen. The session is already being listened to but not recorded.



2 Start to record

As soon as you hear something worth recording, tap the button. It automatically rewinds 5 to 20 seconds to capture what caught your attention. Tapping again stops the recording but not the session, so tap once more to restart.



3 Extras

In the bottom-left is an icon that lets you take notes during the recording, the middle icon enables photos to be taken, while the bottom-right icon lets you tag people. After recording, add photos or notes and share via a range of options.

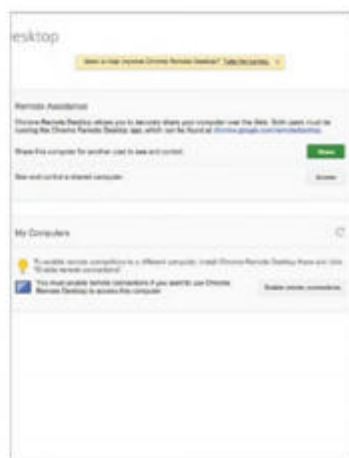


Remotely access your computer

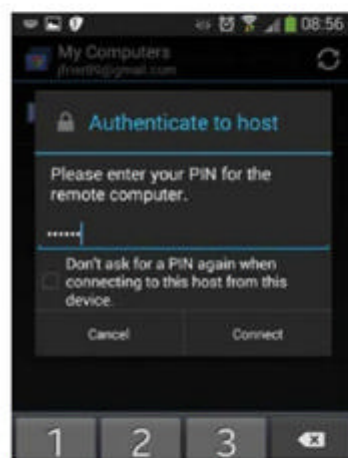
Use Google Chrome Desktop to bring your work computer to you



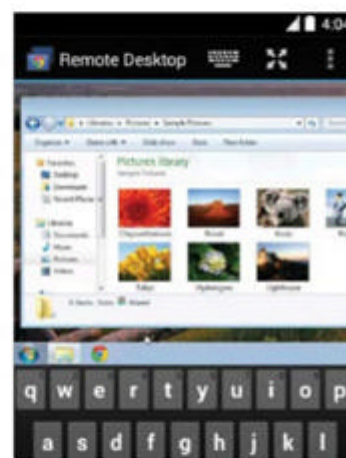
1 To get started, launch Chrome, go to bit.ly/1JR2xpD and search for Remote Desktop. Accept all of the installation permissions and authorise the program to see remote desktop computers. Then choose My Computer.



2 Press Get Started and Enable Remote Connections. Set a PIN code so only you can access your computer remotely and you should now be set up. Download the Chrome Remote Desktop app from the Google Play store.



3 Launch the app and you should be able to see your computer appear on the first screen. Click on the computer and enter your PIN. You should now be able to see your desktop PC on your phone's screen provided the PC is switched on.



4 Now you should be able to navigate around your desktop using your phone's touch screen. The menu in the top right-hand corner accesses Ctrl+Alt+Del as well as fullscreen mode. Fully close down the app to break the connection.

Apps used » Native Android feature Works with » Varies with device

Don't get notifications at night

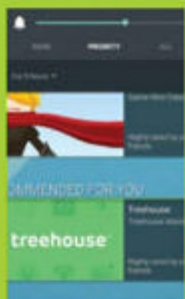
Use Android Lollipop's Priority Mode to make sure that you're not disturbed with alerts while you're sleeping

There's nothing more annoying than being woken up in the middle of the night by an unwanted alert saying someone's favourited one of your tweets.

Fortunately, Android Lollipop has the solution in the form of Priority Mode. Similar to the Do Not Disturb setting found on other platforms, it allows you to mute notifications temporarily. However, unlike Airplane Mode that blanket blocks all communication, Priority Mode allows you to set which notifications are allowed to get through, for instance, an emergency contact or your morning alarm. To start, all you'll need is a device running the latest version of Android. Some manufacturers might not include the functionality in their tweaked versions of Lollipop though, so double check before we begin. This is an easy to use system, so shouldn't take more than a few minutes to complete.

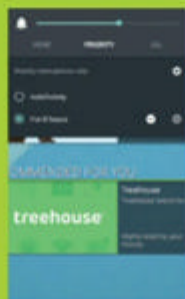
Turn Priority on manually

Follow this easy guide and you'll be able to switch Priority on and off with the tap of a button and the push of a screen



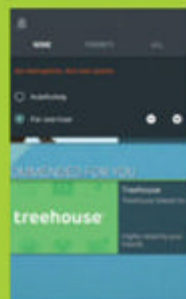
Use the volume buttons

To quickly turn on Priority, push up or down on the volume buttons on the side of your device. You should now see three options underneath the volume bar that pops up on the screen – All, Priority and None.



Tap to turn on

You can just tap on any of the three options to turn them on. You can even tweak the length you will have Priority Mode on for and head into the Settings by tapping the cog icon to quickly and easily change all of the Priority mode settings.



Go all out

If you want to mute all of your notifications, including alarms, then tap the option marked All. You can set how long you want the block to last, but bear in mind that nothing at all will be able to get through when it is muted.

Alter Interruptions

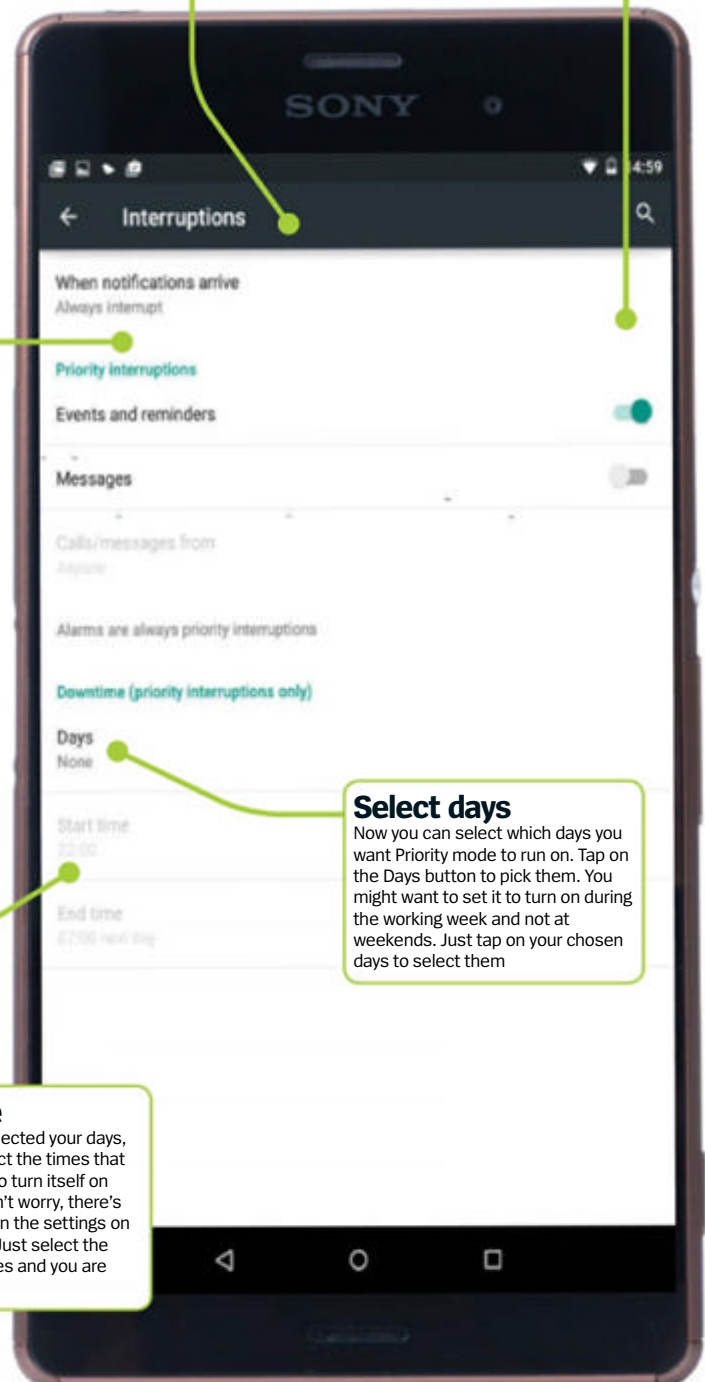
To get things set up head into your Settings menu and go to the 'Sound & notification' menu. When you're in there, tap on Interruptions. Here, you will be able to set which notifications will get through when you're running Priority Mode and which will remain silent

Time Priority Mode

The first thing to do is set how long you want Priority Mode to last for. Tap the drop down menu at the top of the screen and tap Allow only Priority interruptions. If it's for when you're asleep, 8 hours is a pretty good length

Choose contacts

Next, head down to the Notifications settings and pick what you would like to be allowed through. You can select to receive notifications from anyone, from only your contacts or from specific contacts that you have put a star next to in your device's phone book



Select days

Now you can select which days you want Priority mode to run on. Tap on the Days button to pick them. You might want to set it to turn on during the working week and not at weekends. Just tap on your chosen days to select them

Set a time

Once you have selected your days, you can then select the times that you want Priority to turn itself on automatically. Don't worry, there's an easy way to turn the settings on manually as well. Just select the start and end times and you are good to go

App used » Field Trip Works with » Android 2.3 and up

Get a guided tour of a city

Use Field Trip to find interesting things to see and do near where you are

Field Trip is a brilliant app that shows you all the interesting things around you. It gives you directions, information and a whole host of other useful location based knowledge at your fingertips. In this tutorial we'll show you how to get the most out of the app, explain what everything does and show you a few useful tricks and tips as well. We will also show you how to save your favourite places for future ease of access too. The app is easy to use and you won't need anything other than a few minutes to get to grips with it. It's free to download from the Google Play store and once you've grabbed it you're good to go.

Get directions

When you've got one of the boxes open you can tap on the directions button and you'll be shown how to get there. This will open up the maps app. You can also share the information about the place by tapping on the share button

Explore the menu

The menu button lets you refine what you're being shown on the map view. You can choose to only highlight specific types of locations and view the places you've saved to check out later. You can also play with the different notifications settings of the app

Investigate the area

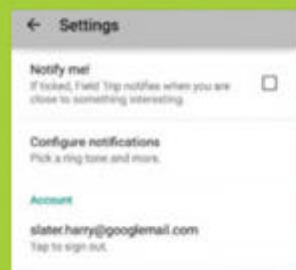
A tap on the crosshair button in the top-right corner of the screen will zero-in on your current location. Tapping on the search button that's next to it will enable you to search the local area for specific businesses, locations or any particular points of interest

Points of interest

The boxes along the bottom of the screen display nearby points of interest. Swiping through them shows you their position on the map, and tapping or swiping up on them shows you a short written description. Just swipe back down to close them again

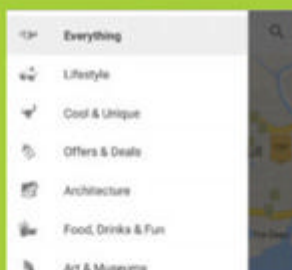
Get more from Field Trip

These tips will show you how to get more out of Field Trip by using notifications and saved places to ensure that you're not missing anything



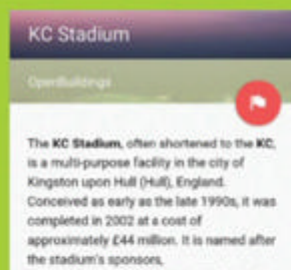
1 Set your notifications

Head to the Settings menu and tap to enable notifications. Now when you're near anything noteworthy and included in its database, the app will automatically let you know so you can be sure you're not missing out on interesting places.



2 Refine your view

If you're looking for a specific sort of attraction, head to the Settings menu and select it from the list. Now the app will only show you places that fit that category. Handy if you're looking for something to eat.



3 Save your places

When you're looking at the information for a location, tap the red flag to add it to your saved places. You can then access it from the Settings menu. Helpful if you're making a list of places to visit somewhere new.

Zoom in and out

The majority of the page is taken up by the map. This shows you where you are and where any points of interest around you are. You can swipe through it with a single finger, and pinch to zoom in and out

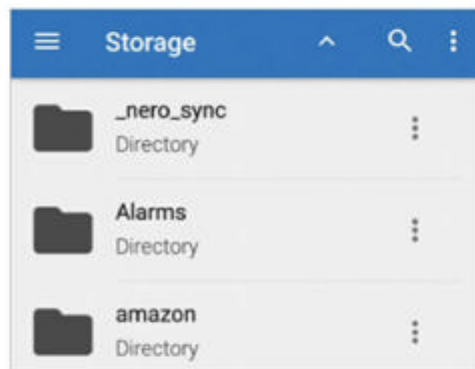
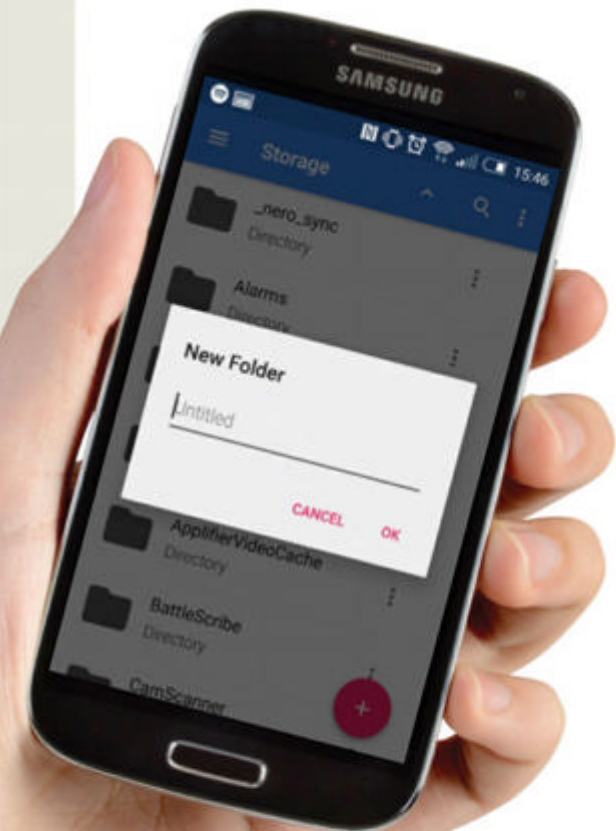
App used >> Cabinet Beta Works with >> Varies with device

Manage files without configuration

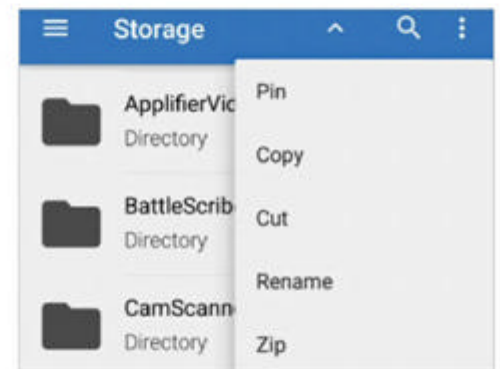
Use Cabinet Beta to easily manage files stored on your Android device

Sometimes setting up a file manager on your Android device can be a mammoth task, and by the time you've got it running you've forgotten why you installed it in the first place. And if that isn't a problem, then they're often painfully ugly apps that wouldn't look out of place on a PC from about 12 years ago. Cabinet Beta solves those two problems in one fell swoop. First of all, it's a really good looking app that will fit

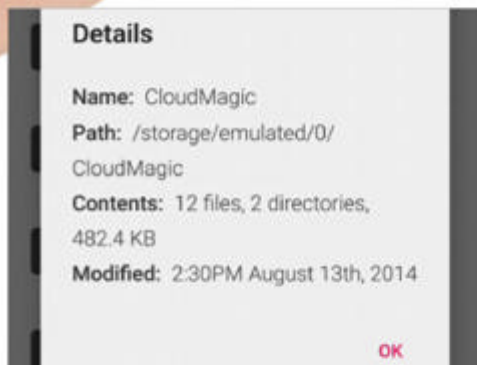
nicely on any device running Lollipop and second of all, it's a doddle to get up and running. In fact, all you need to do is install it and it will do the rest. In this tutorial we'll show you what the different parts of the app do and talk you through some of the more interesting advanced functions that you might want to have a play with. Head to the Google Play store, download the app and when it's installed, head down to Step 1.



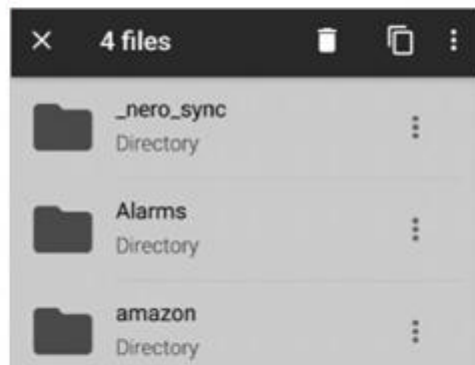
1 Access the main page
Once you've installed the app you'll be taken through a little tutorial that explains the user interface. When that's done you'll tap a button which will take you to the main page of the app. There you'll see a list of all of the folders that you've got on your device.



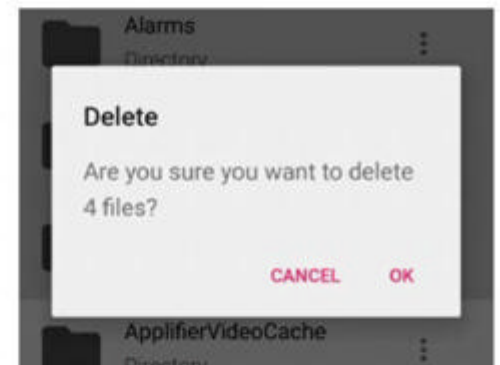
2 Use the menu button
You can tap on the three-dotted menu button next to the name of any file or folder to get more information about it and open up a list of options that tell you what you can do with that file or folder. This is the easiest method for dealing with single items.



3 Find out more
Like any good file manager, you can find out the details of any file or folder with a quick tap from inside this menu. The app will show you where the data is stored, how long it's been there and how much space it is taking up on your storage as well.



4 Select multiple files
If you want to deal with more than one file, then first long-press on one of them. When the screen turns black you'll be able to tap on the icons of other files or folders to add them. When you've picked all of the ones you want, you've got a couple of options to choose from.



5 Manage selected files
Those options will appear in the top right-hand corner of the screen. Tapping the bin deletes the files and folders, while tapping the overlapping icons will copy them. Tapping the menu button gives you options to cut, pin, ZIP and select all of the files on show.

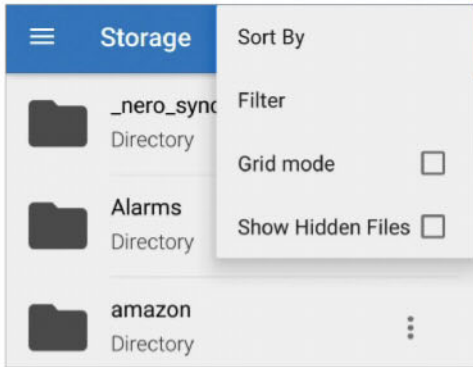
1 Root of the problem
If you've got a rooted device access your root files from the menu on the left

2 Find your type
You can select different types of files to look at from the left-hand menu as well

3 Donate or not?
If you're using the app a lot, consider donating to its upkeep through an IAP

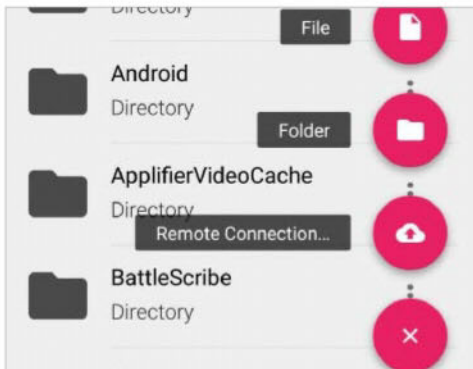
4 Change the look
You can make some changes to the way the app looks in the settings menu

5 Open it up
If you want to open a file, all you have to do is simply tap it – it is that simple!



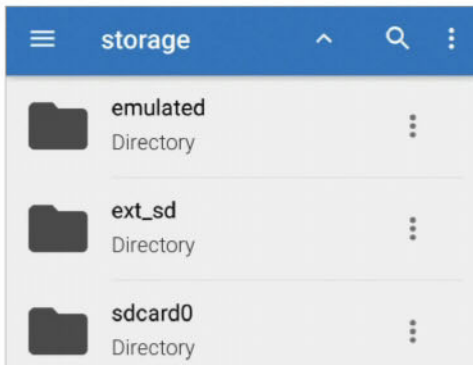
6 Rearrange them all

Tap the menu button in the top-right of the screen, when you don't have any files selected, to choose how you want your files and folders to be displayed. Select whichever one works best for you and then just give it a quick tap to set it up.



7 Select the pink cross

Tapping the pink button in the bottom-right of the screen will open another menu. This lets you create new files, folders and connections. Tapping on any of the options will let you quickly pop something into your file saving system. We'll cover the connections later in the tutorial.



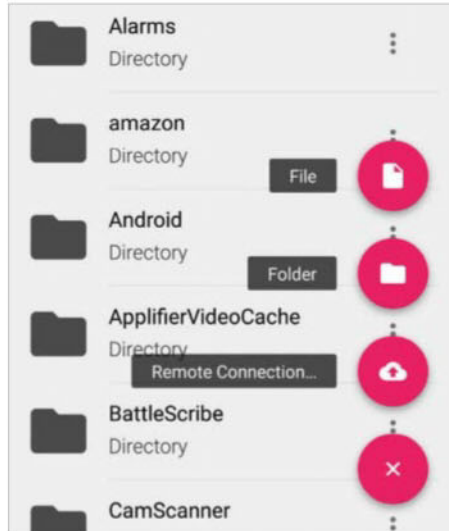
8 Take a step back

The last button you might need is the little arrow in the top bar. This lets you take a step back into parent folders. It's useful to get a better idea of how everything is stored on your device and lets you quickly jump out of folders to the main list as well.



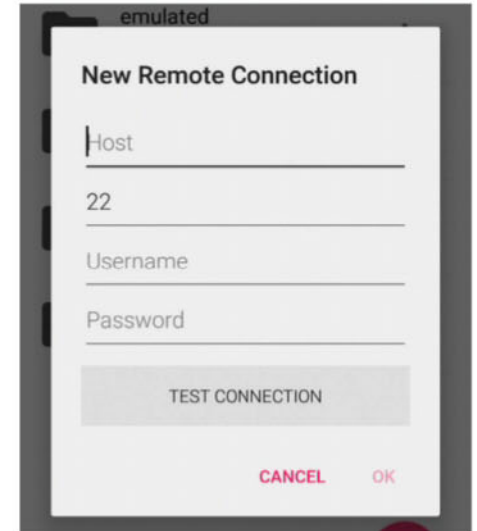
Connect your phone to a network

You can quickly connect your phone to an FTP network to collect files. It's really simple and this tutorial will show you how to do it



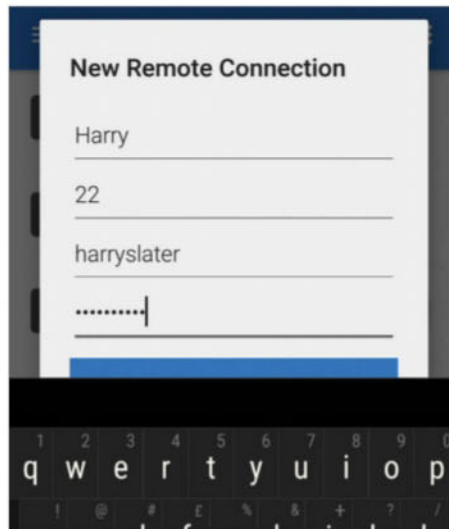
1 Tap the pink circle

First tap the pink circle to open the menu. You should see an option called Remote Connection. This is what you want to use to connect your phone to the server, so tap on it. You will need the details of the connection you're trying to make in the next step.



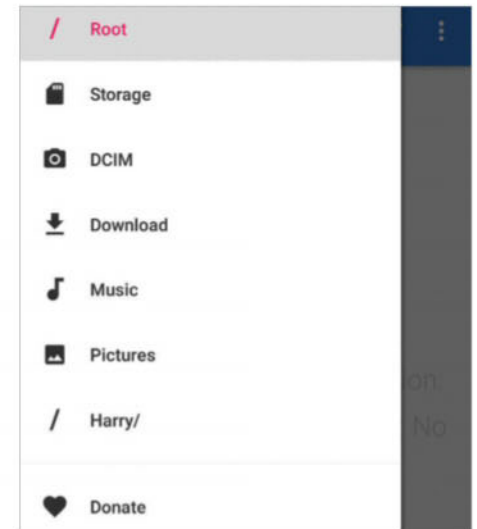
2 Add the details

You'll need to know the host of the SFTP server you're trying to connect to, as well as your username and password. Enter them in the spaces provided and when you're done tap on the button marked Test Connection to see if everything is working in the way it should be.



3 If it goes wrong

If things haven't gone right, then you should see an error message replace the button. Try re-inputting the values and having another go. If you're sure that everything's right, then it might be a problem with the server you're trying to connect to. Check the settings there and then have another try.



4 If it goes right

If everything goes well, then your connection to the server should be accessible by tapping on the menu button in the top left-hand side of the screen. Look down through the list of folders and file types and you should see it there. Simply tap on it whenever you want to connect to the server.

App used » Native Android Wear feature Works with » Android 5.0

Master Android Wear Quick Settings

Switch between modes and adjust settings with these simple smartwatch shortcuts

Quick Settings are a very important feature of the Android Wear software because they give you instant access to the adjustments you will probably need to make on a daily basis. Whether you are in the cinema and want to turn the screen off or are in an important meeting and need to mute all sounds, with Quick Settings everything can be managed with just a couple of unobtrusive taps. They effectively replicate many of the settings that are available as standard but are much closer to the surface and don't require multiple taps and swipes of the screen to use them. Indeed, they are so useful that once you begin to use them every day, you will look back and not believe quite how clunky your Android Wear device was before. They really do change the entire experience and will make your watch more practical and invisible to use all of the time, and let's face it, that's what we all want from Android Wear!



Swipe down for quick settings

If you swipe down when the watch face is showing, you will access quick settings. You'd normally tap the face to see the full list or swipe right to dismiss notifications. Though, once you've used this method a few times, it will become simple.



Switch Mute mode on or off

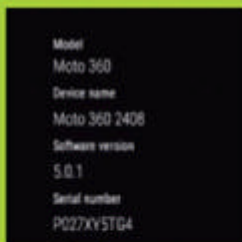
The first screen you will see shows the Mute option and briefly the date and remaining battery percentage. Simply tap to turn the mute on and then tap again to turn it off. This is very useful when you need to stop all sounds quickly.

Turn off the screen with Cinema mode

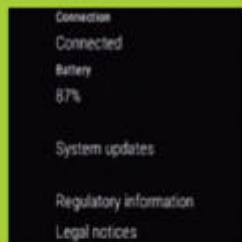
Swiping left while on the Mute screen will bring up the Cinema mode option. Tap to turn it on, at which point the screen will stay off for as long as you need it to. Just like the Mute mode, this is really useful to use quickly at short notice.

Check your watch is up to date

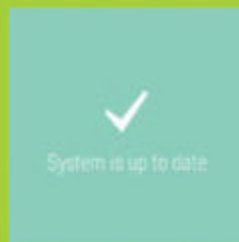
Quick settings were only added in a recent release of the Android Wear software, so make sure your device is fully updated



Find your current software version
Go to Settings and scroll down until you see the About option. You will now see the current version of the software that your Android Wear device is running, which will hopefully already be the latest.



Activate an update
Scroll down some more and a System updates option will be displayed. Tap it and if there is an available update the process will begin to start installing it. It should only take a few minutes to fully complete.



You have quick settings
Once the update process has completed, you will see this screen when you tap System updates. You can repeat the process in the future from time to time to make sure that you always have the latest update installed.



Brighten the screen easily

The next left swipe takes you to the Sunlight mode. When you tap it, the screen will become very bright for a short period and then return to normal brightness. This limitation helps you see in bright conditions and also saves precious battery life.



Simple and efficient settings

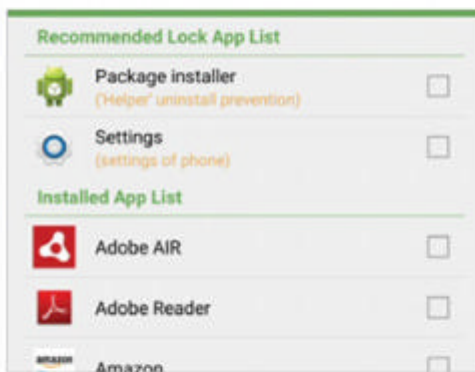
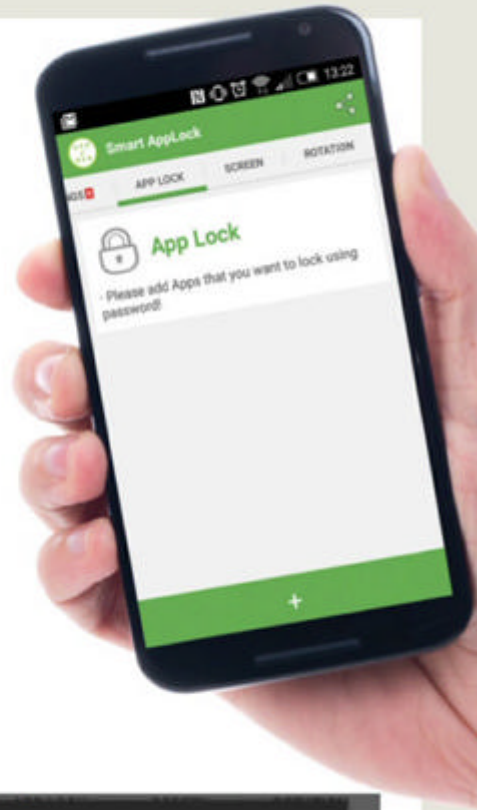
Every part of quick settings is designed to be activated with one tap and the Cinema mode will only be deactivated when you push the crown. Simple instructions and a careful understanding of what you need is why quick settings work well.

Password protect your apps

Use Smart Applock to add an extra layer of security to all of your apps

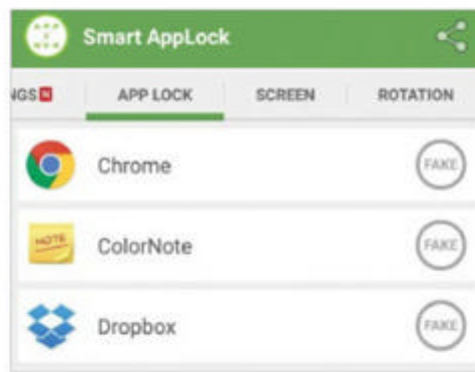
If you're worried about the information in some of your apps getting into the wrong hands, then you can add an extra layer of security on top of them with Smart Applock. It's free to download and it's really simple to get it set up. There are a number of functions that the app

offers, from changing the rotation lock settings on specific apps to forcing the screen to remain switched on depending on what app you're using. However, in this tutorial we're going to look at how you can add passwords to any apps that you think need a little more security on your Android device. There are no special skills required and all you'll need to get things up and running is the Smart Applock app itself. It really is that simple. Once you've downloaded it from the Google Play store, you're ready to head on to step one.



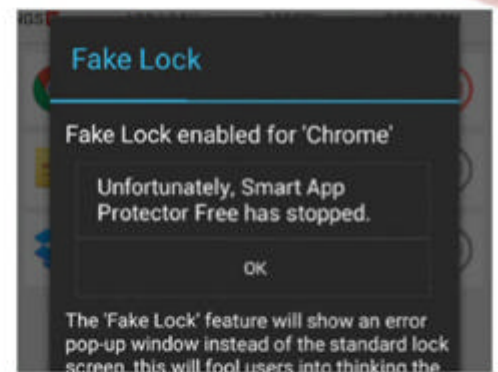
1 Tap the button

When you've loaded up the app for the first time, you'll be greeted by a screen with a padlock and a large green '+' button at the bottom. Tap on this and you'll be taken to a long list of all the apps and processes that you can add passwords to.



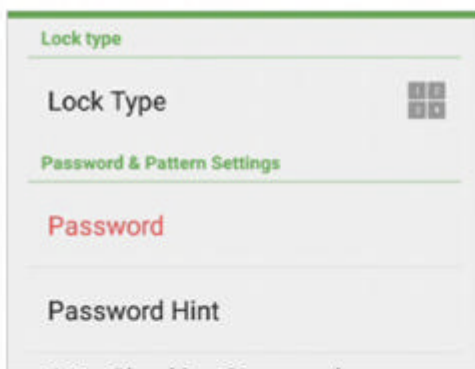
2 Add some apps

To add multiple apps at the same time, just tap on the tick box next to their names. When you've selected the ones you want to protect, tap on the ADD button and you'll be taken back to the main screen which will now have those apps on it.



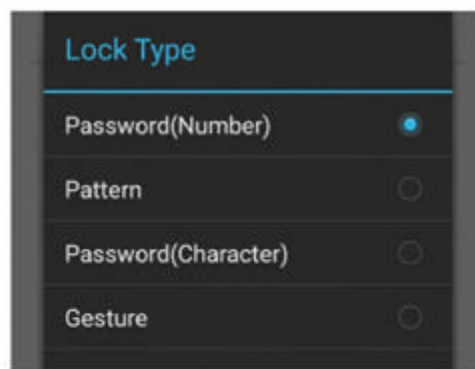
3 Fake it

One trick is to add the Fake Lock option to an app. This brings up a pop-up notification, telling you that an app has been shut down when you tap on it. You can then long-press on the OK button to open up the lock screen and input your password.



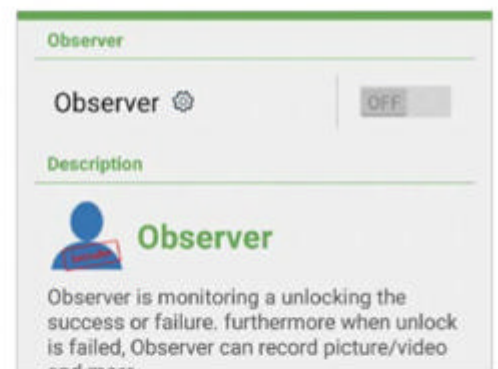
4 Head to the Settings

Swipe left from the main screen to get to the Settings menu. Here you can tweak different options to ensure your apps are at their safest. You'll also be able to change the password from the default 7777 to something more secure.



5 Choose your security

There are different password options to play with. You can use a gesture or create a password using numbers, patterns or letters. Tap to select the one you want and tap the password button to set it. Tweak the settings to your liking.



6 Be an observer

Tap on the Observer option in the menu to keep a log of failed password attempts. It's good to see who's been trying to access your apps without permission. You can even photograph people who have entered the pass incorrectly too.

App used **ARChon Packager** Works with **Android 4.0.3 and up**

Run Android apps in your desktop browser

Learn how to run apps on your computer in the Chrome browser

You may be surprised to learn that you can run Android apps in your desktop Chrome browser. While not an exact science, it is made possible by a custom runtime called ARChon, which is added to Chrome as an extension and is capable of running apps that have been converted to run with the runtime. This works on Windows, Mac OS X and Linux.

Adding the custom runtime to Chrome is the easy part. The magic is in the conversion which can be done using a couple of different methods. Getting to grips with both of these will enable you to cover all possibilities, as some Android apps may not convert successfully on the first attempt, necessitating a second attempt with the alternative conversion tool.

Meanwhile, if conversion seems a little complicated or time consuming, other users have compiled lists of links to apps that have been converted already, so all you'll need to do is download these apps to your computer and run them in Chrome with ARChon.

Quick access

Being able to run your favourite Android apps on your desktop computer (Windows, Mac OS X and Linux) can save a lot of time. Text entry is made easier and as long as Chrome is still running, the app will be accessible.

Choose your view

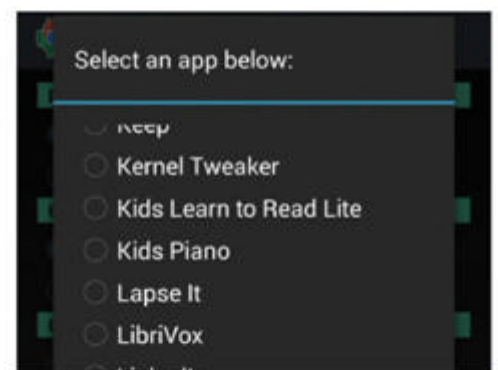
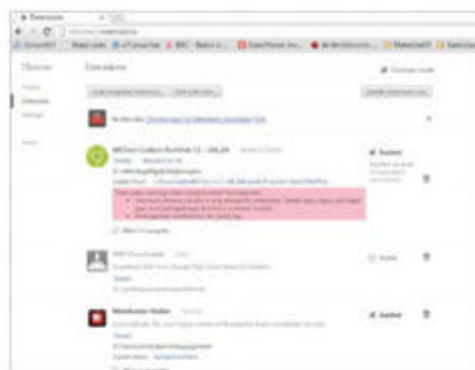
Depending upon your preference, apps can be converted from your Android device in smartphone or tablet mode and with a choice of Portrait and Landscape orientation. Make the right choice to gain maximum usability from the app as you use it on your desktop PC.

Convert the right size

Not all apps will work efficiently. Stick to those with a smaller file size to make converting simpler. If a conversion fails then retry using a different set of options as this can make all the difference.

Sort local issues

Local issues can impact app stability. Anti-virus and firewall software can block apps from running or accessing the web, so you'll need to find ways to overcome this. Once successful, however, running Android apps with the Chrome browser delivers a truly liberating experience. Try it out for yourself!



1 Install ARChon extension

Prepare the Chrome browser on your computer for running Android apps. Go to <http://bit.ly/1Lyv94x> and download the version of ARChon to suit your computer (there is a 32-bit and 64-bit version, and an ARM version for Chromebooks). Once the 100 MB file has downloaded, unzip.

2 Add the extension

In the Chrome address bar, enter `chrome://extensions` to view all currently installed extensions. Select the Developer mode box, click 'Load unpacked extension', browse to the folder where ARChon was unzipped and select it. To complete the installation, check the Enabled box.

3 Install ARChon Packager

At present, your Android apps are not compatible with ARChon. In order to run your apps in Chrome you'll need to convert them first, which we do with the ARChon Packager from the Google Play store. This app converts APKs stored on your phone and any installed apps.

Five more ways you can run Android apps

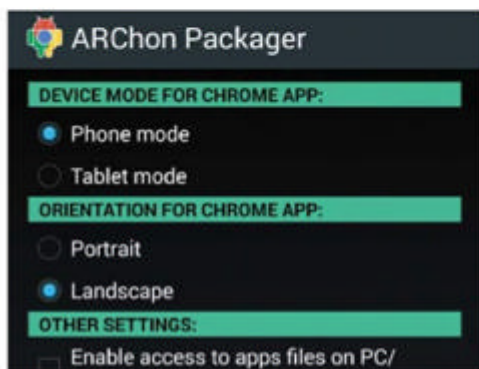
1 On a Blackberry phone
Many Android apps can be run on modern Blackberry handsets, so they're not totally useless.

2 On your PC with BlueStacks
Run Android apps on your PC with the free Bluestacks app player from www.bluestacks.com.

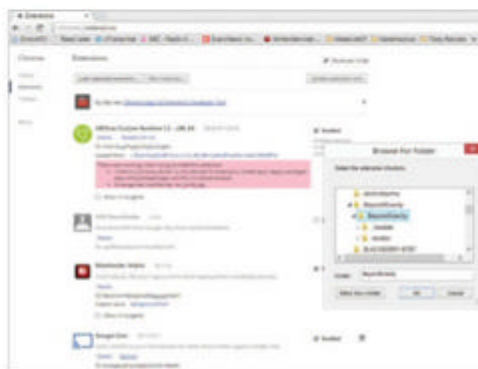
3 Remote Android
You can easily 'run' apps on your PC by remote connecting it to your Android device.

4 On the Chromebook
Chromebook computers can run Android apps thanks to the chromeos-apk tool.

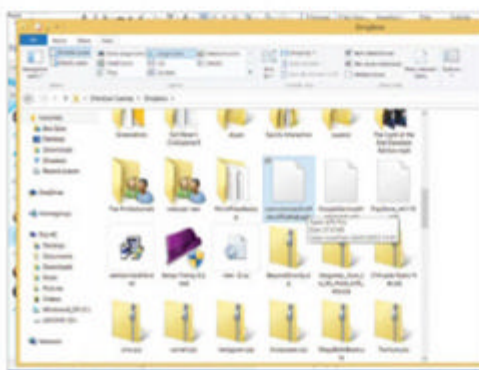
5 With Android as desktop OS
Run apps in Android as a desktop OS for computers and even the Raspberry Pi.



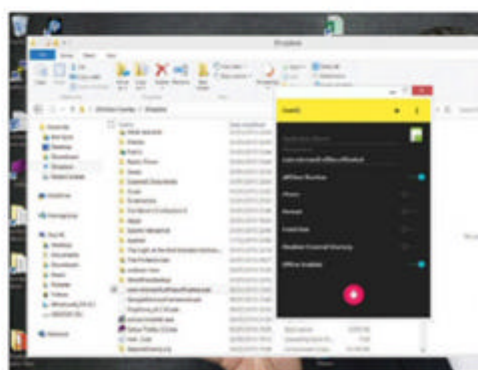
4 Convert Android apps
With ARChon Packager running, select the app you wish to convert and specify whether it should be in Phone or Tablet mode and be converted to display in Portrait or Landscape mode. Tap Finish to complete and save the ZIP file to cloud storage or copy to your PC.



5 Unzip the app
Unzip the file on your computer and switch back to the Chrome browser. Once again in the chrome://extensions view, select 'Load unpacked extensions' and browse to the unzipped folder. Click Launch to open the app in the desktop Chrome browser and start using it as normal.



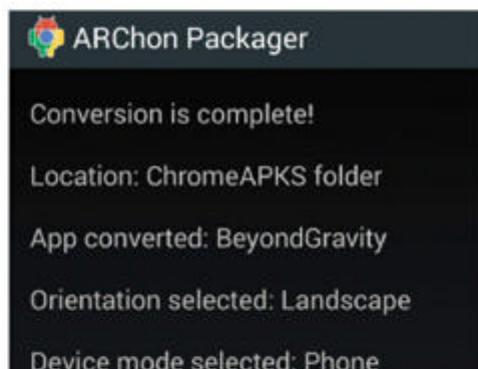
6 Find APK files
You might have a particular requirement for running an Android app in your browser – for example, you may have lost your phone or be temporarily parted from it. Downloaded APK files can be loaded into ARChon which rules out the need for an Android device.



7 Convert with twerk
Import an APK file stored on your computer into Chrome with the twerk app from the Chrome Web Store. Run the extension from chrome://apps and drag the APK from your file browser to the twerk window. Convert in the preferred mode and orientation, then run it in chrome://extensions.



8 Find APKs
There can be an element of trial and error when converting APKs to run in Chrome with ARChon – you might prefer to take a back seat and let other people do the hard work. Peer-approved APKs can be found in the Chrome APK subreddit (www.reddit.com/r/chromeapks).



9 Converted APK safety
Remember that if you haven't converted the files yourself, there's no guarantee that APKs downloaded from a third party are safe. Stick to ones that have been verified by other users before proceeding. If you don't, your Chrome browser could leak your personal details.

faq

Ask your own question online at littlegreenrobot.co.uk

Can I run apps in any other browser?

At present it isn't possible to run an Android app in any other browser, only Google Chrome. Given that it is the world's most popular web browser, there shouldn't be any problem for you to use Chrome. Even if you're opposed to its use on privacy grounds, it is still worth having it installed.

Where can I find APK files legally?

APK files can be found in various places online. The most obvious is Google Play, but you will need a tool like the APK Downloader browser extension to get the APK file saved directly to your computer. Several trustworthy alternatives to Google Play exist, most of which enable you to download the APK file directly to your computer first. Slideme.org is a good choice, with a strong community of users and is relied upon by AOSP users.

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Jargon Buster

Get up to speed on all the terms you will need to know when hacking your phone

OS

Short for 'operating system'. Often the Android ROM will be referred to as the OS – this just means the system files on the Android device that make up your user experience, similar to Windows, Mac OS X or Ubuntu on a desktop computer.

ROM

Stands for 'read-only memory'. In the context of Android, the ROM refers to the files that make up the operating system installed on your device. Gaining root privileges allows for replacement of the standard ROM with a custom one.

Root

'Rooting' your phone gives apps access to parts of the OS that are normally hidden from consumers. This enables you to run more powerful software and install custom ROMs on your phone.

ROM Manager

An app available from the Android Market that enables you to install a whole new version of your OS with a single click. It requires a rooted phone to use and is ideal for those new on the scene.

Titanium Backup

This app from the Market enables you to back up everything on your phone – apps, data, settings and all. It means that you can restore your phone to how it was, even after you've updated or changed the ROM.

Unrevoked

Available from www.unrevoked.com, this is a one-click tool that can be used for rooting many popular HTC smartphones.

ADB

Stands for 'Android Debug Bridge'. ADB is mainly used for software development, but it also has some uses for hacking your phone. It can be used to push files onto the system folder, for instance.

Nandroid

You might come across the phrase 'perform a Nandroid backup'. This means using a custom recovery tool to make a back-up image of everything currently on your phone: OS, apps, data, etc. It's very useful should you wish to restore your phone to its previous state later.

Radio

'Radio' refers to the software on your Android device that deals with making phone calls and data connections. Updating your radio version can bring better battery life and signal strength to your device. Some ROMs require the latest radio.

Flash

The storage in your device comprises flash memory, a type of solid-state storage. The terms 'flash' or 'flashing' mean installing new software onto your device's storage.



High-performance hacks to turbo boost your phone's speed and performance

As you might have noticed, technology develops pretty fast. It's entirely possible that that high-end smartphone or tablet you bought a year ago is starting to creak a little compared to newer models. But instead of chucking it in the bin in a strop and going out and buying another model, why not try supercharging it with some of these hacks. You'll need root access and a little bit of technological know-how to perform them, but with a few tweaks and pokes you'll be able to get some of the hidden power out of your

Android phone or tablet. Over the next few pages we'll explain how to overclock your device, enabling you to get every drop of juice out of its processor, talk you through some of the fastest ROMs available and show you how to tweak the graphical settings of your phone or tablet to give games a little more zing. We'll also walk you through some of apps that you need to have installed if you want to get the best performance out of your device and show you how to make sure there's nothing in the background that's slowing down your tasks.

How to overclock your phone

Use SetCPU for Root Users to push your device's processor power even further

SetCPU is a paid app that lets you take control of the processor on your rooted device. As well as being able to push it to output more power, you can also set profiles to change the CPU state depending on what apps you've got running, whether you're charging your device or want to know how much battery life you've got left. It also monitors the temperature of your device to make sure that you're not putting it in danger. The app supports most devices and once you've downloaded it, you are good to go.



1 The main page

You can find the speed that your processor is running at, as well as the maximum and minimum speeds that it is currently set to run at on the main page of the app. There are two sliders that enable you to alter these numbers and boost the performance of your device.

2 The governors

At the bottom-right of the screen you will see a drop-down menu. Here you can set which governor is managing your CPU. These are different settings that make your CPU react in different ways depending on conditions. There's more information on the current Governor in the Governor tab.

3 The right kernel

It's possible that the ROM you're running won't support overclocking, so make sure it does before you commit to buying the app. If it does, you need to set up a Safe Mode back-up for when you're tweaking the power settings. You can do this from the main page.

4 Be safe

From the main page, tap the menu button and go to Safe Mode Instructions. This lets you download a flashable ZIP that you can run in recovery mode. If you're running an overclocked CPU and have set the app to run on boot, your device might not like it.

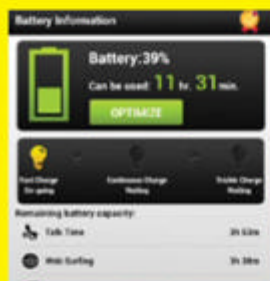
5 ZIP back up

This is where the flashable ZIP comes in. If you do get stuck in a boot loop after changing the settings, run the ZIP in recovery mode and SetCPU will open in Safe mode, which puts your CPU settings back to normal and effectively bypasses the loop.

6 Go over the clock

You can set different CPU profiles in the profiles tab. The order that they are listed in is the order of preference, so ones that are higher up the list will take precedence over lower ones. Tap the '+' icon to create one, then add your states from the list.

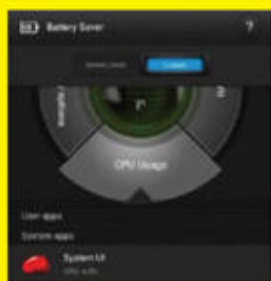
Power-boosting apps



Easy Battery Saver

A neat-looking, fully featured battery saver that lets you make sure you've always got enough juice to keep your phone or tablet running and it gives a breakdown of your usage too.

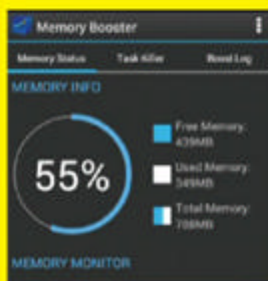
» Price Free
» Android 2.2 and up



Power Tune-Up

A handy all-in-one app that enables you to keep an eye on your regular power usage, shows you how you can save your power and also tells you how much data you have used.

» Price Free
» Android 2.2 and up



Memory Booster

An app that lets you quickly tweak the settings of the RAM on your device, killing processes to make sure that everything runs as smoothly and swiftly as it possibly can.

» Price Free
» Android 2.2 and up



Bluetooth Power

An app that turns your Bluetooth on when you plug your phone in and off when you unplug it. It also switches your Bluetooth off if you haven't paired for two minutes, which is handy.

» Price £0.63 / \$0.99
» Android 2.1 and up



Overclock for Android

Another overclocking tool that also offers a set of widgets so you can keep an eye on your CPU from your homescreen. Also lets you to set user profiles.

» Price £1.50 / \$1.99
» Android 2.1 and up

Automate task management

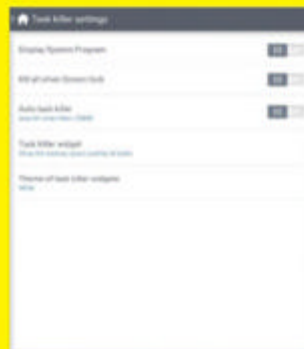
Use ZDbox to kill running apps and processes on the fly to speed up your device

One way to speed up your device's performance is to make sure you're not using anything you don't need to. Obviously you can do that manually but there is a much easier and less time consuming way to go about it. ZDbox is a simple app that lets you kill processes when they're using up a set amount of your device's memory, and it will run automatically if you set it up correctly. You can set it to kill everything when you lock your screen as well and it will also clear your cache to free up even more memory. It's free to download and once you have got it installed, just follow the simple steps in this tutorial to get it set up and running on your rooted device.



1 The task killer

From the main page of the app, tap on the Task Killer bar at the top of the screen. There's an orange bar across the top of the next screen, tap this and then grant superuser access to the app. Now tap on the settings cog.



2 Set it up

In the settings menu, toggle the switches next to 'Kill all when screen lock' and 'Auto task killer' so they are on. You can set a widget on your homescreen from here to get the information about what's running and what it's using.



3 Knock it down

Manually kill apps by checking their names in the Task Killer list or by tapping the percentage circle on the main page. To clear your cache, tap on Cache cleaner on the main page and in the options menu, set to clear every twelve hours.

“One of the places where an under performing Android device is the most obvious is games. They take up an awful lot of processor power”

Improve graphics quality

Use GLTools to boost the performance of your device when you're playing your favourite games

One of the places where an under performing Android device is the most obvious is games. They take up an awful lot of processor power and if your phone or tablet isn't up to speed, then you are going to get a lot of chug and lag which will completely ruin your gaming experience. However, that is something you can easily fix with GLTools, a free app that lets you change the settings on your CPU and GPU to make games run quicker and more smoothly. You will need a bit of know-how to make sure that you're getting the new settings just right, but we will walk you through how to do it in this simple tutorial. Once you have downloaded the app from the Google Play store, then you're ready to go.



1 Install and reboot

Once you've installed the app, you need to grant it superuser permission and then install some extra content. You can either do this through recovery mode or through the app. Whichever you decide to do, your phone or tablet will reboot when it's downloaded the files.



2 The big list

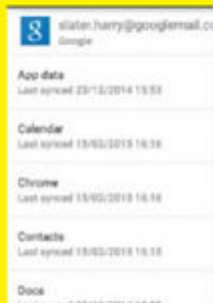
When you reopen the app, you will be taken to a big list of all apps that you have got installed. Tap on the game that you want to customise, and then tap on the tick box to enable custom settings. Now scroll through the list to see what you are able to tweak. There should be lots of options to pick from.



3 Useful to check

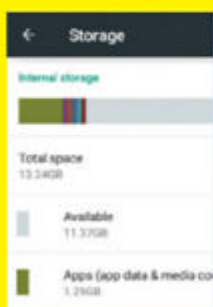
It's good to check the Force 16 bit rendering and Optimize GLSL shaders boxes. Try downscaling the textures as well, although that may affect visual performance. You can also fool a game into thinking you're using a specific chipset by using the fake CPU emulation settings.

Superfast fixes



Superfast and simple fixes

Syncing is nice, but it means your device is checking up on things every few minutes or so. Turn it off and remember to sync manually to free up some memory.



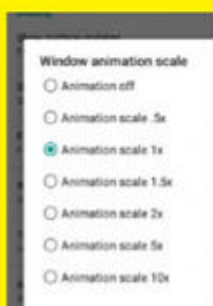
Use a faster SD Card

Using a faster SD card will speed up the transfer of data and shave a couple of seconds off the load times. Class 6 or class 10 are the ones you should look out for.



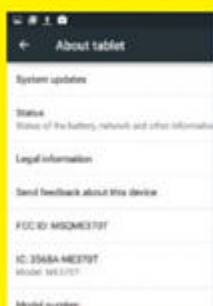
Cut down on widgets

Cutting down on the number of widgets you've got running on your homescreens will cut down the amount of power and memory you're using when you're just looking for an app.



Turn off animations

Go to the developer options, scroll down to Window animation scale and set it to Animation off. Transitions won't be as smooth, but they won't use as much memory either.



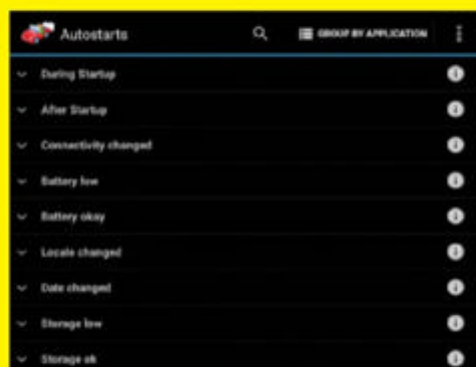
Keep up to date

Make sure you've got the most up to date stable version of whatever ROM you're using. The same goes for nonrooted users as well. And keep your apps up to date too.

Speed up start up with Autostarts

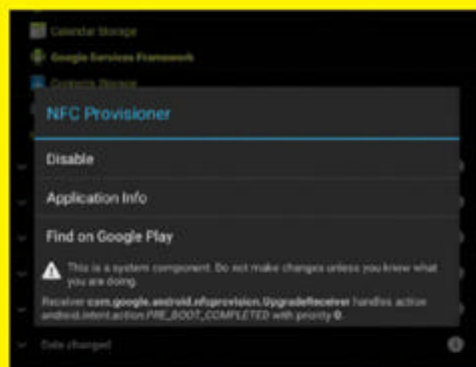
Use Autostarts to set which apps boot up when you start your rooted phone or tablet

If your phone or tablet is taking a lot of time to boot up when you turn it on, it could be because you've got too many apps clamouring to turn themselves on at the same time. Don't worry though, there is a simple way around this and it's called Autostarts. This easy to use app lets you kill any processes that are making your boot up time chug, meaning that your rooted Android device should turn on in record time. It's a paid app so if you are unsure whether you need it or not, it is a good idea to make use of the Google Play store's half hour refund window to try it out.



1 Download and install

Once you have downloaded the app you will be shown a long list of times when processes kick in automatically on your device. Don't fret though, the entries that we are looking for should be at the very top of that list, marked During Startup and After Startup.



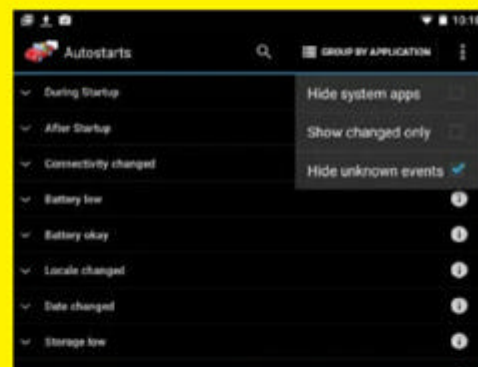
3 After Startup

There are going to be a lot more processes at this point, so take your time to see which of them you want to activate when your phone or tablet has turned on. To alter the settings, just tap on one of the processes and then tap on the button marked Disable.



2 Check During

First check the During Startup box. Most of these should be system processes that you need to run in order to get your device up and running. If you are unsure what any of them are, a quick Google search should set you right. Now check the After Startup box.



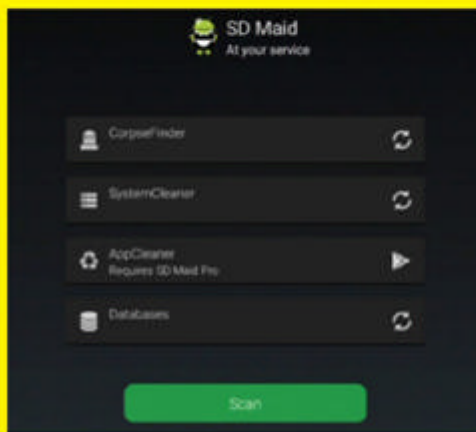
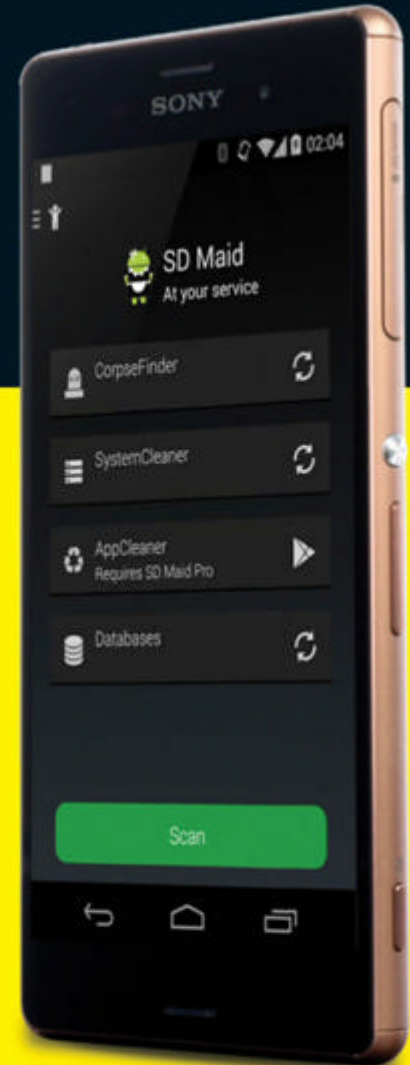
4 Hide system apps

If you are still unsure about what you can and can't turn off, hit the menu button in the top-right corner of the screen. Tap the box marked 'Hide system apps' and anything that the system requires to run will be taken out of the list so you know what you can change.

Clean up leftover bits of app

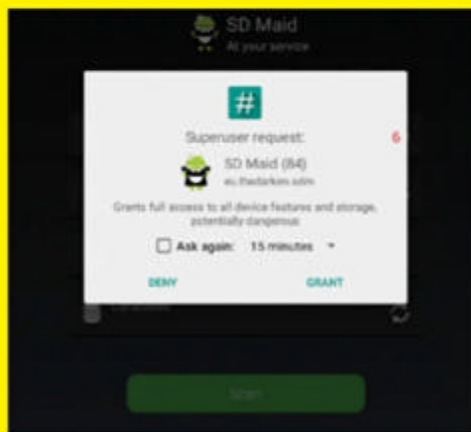
Use SD Maid to make sure you're uninstalling all of an app

When you uninstall an app, there's a chance that you're not getting rid of all of it. Some apps leave little processes and parts of themselves behind that can slow down your performance without you knowing. That's where SD Maid comes in. It checks your device's memory for those annoying slices of deleted apps and gets rid of them. It can clear other blockages in your Android system too, keeping your device running at top speed with only a few taps. It's a free download, although if you want to schedule cleans you'll need to pay through an IAP.



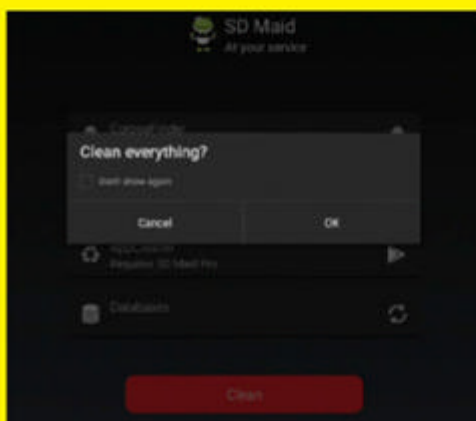
1 Load it up

When you first load up the app you'll see a main page that looks something like this. It shows you three different options. We'll concentrate on CorpseFinder first and clear out the remnants of any deleted apps. Tap the refresh button next to it to get started.



2 Give your permission

As soon as you tap the button you'll be asked to give root permission. Grant it and the app will scan your device. Depending on how many apps you've uninstalled, this could take a while. Be patient. When it's done you'll be told how much space is being used up.



3 Clean it up

Once the process has run, the button at the bottom of the main page will turn red if you've got any ghost app slices to get rid of. Tap on it and SD Maid will automatically delete them from your device. It might not seem like much, but it'll help.



4 The other stuff

Run the two other processes available in the free version of SD Maid to free up more space. They work like the CorpseFinder scan. Run them one after the other, then tap the red Clean button to get rid of everything they have found.



5 Check the menu

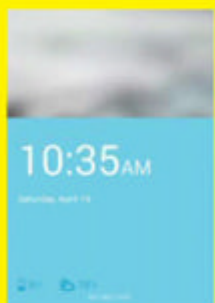
Hitting the menu button in the top-right of the screen brings up a bigger list of tasks and options. If you've got the premium version of the app, you can use the Scheduler options at the bottom to set up a regular and thorough clean.

Benchmark-busting ROMS



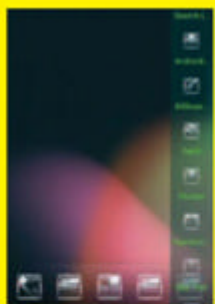
Paranoid Android

A superslick and great-looking ROM that does things slightly differently, and offers an extra quick Android experience that's not afraid to do things differently from the rest.



CyanogenMod

Probably the best known ROM and definitely the easiest to install. Use the CyanogenMod installer available from the developer's website and you'll have it up and running in no time.



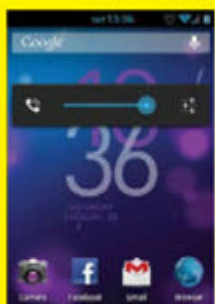
AOKP

A slick alternative to CyanogenMod, AOKP is easy to set up and features plenty of neat tricks that can speed up your performance. It's regularly updated too, and it's really nice and simple to use.



P.A.C True All in 1 ROM

An older ROM that collates features from others on this list and streamlines them a little. Not superslick, but it is pretty quick. Check that your device is supported though.

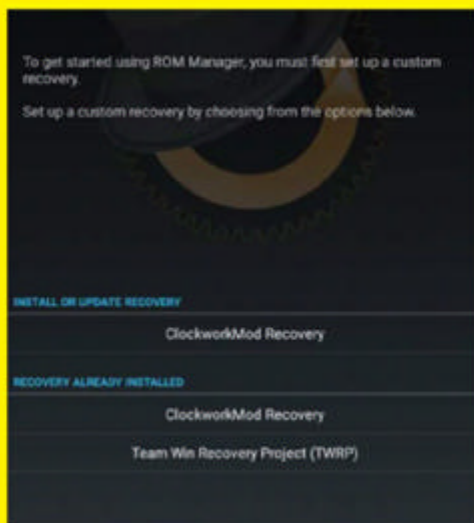


Slim Bean

A pared back ROM that cuts out a lot of the special features that other ROMs showcase and keeps things nice and simple instead. It's not as slick as some, but it's still neat and easy to use.

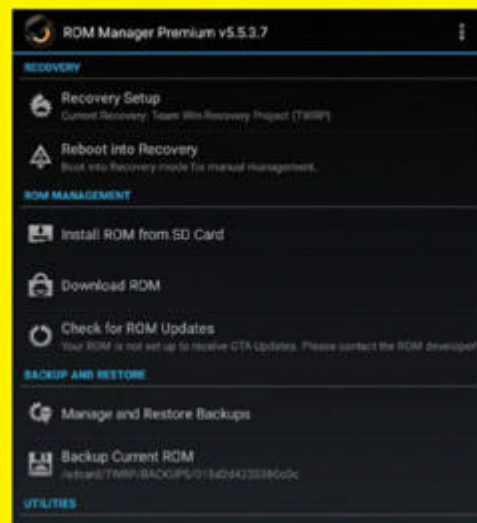
Flash a faster ROM

Use ROM Manager to quickly swap between different ROMs to check their speed



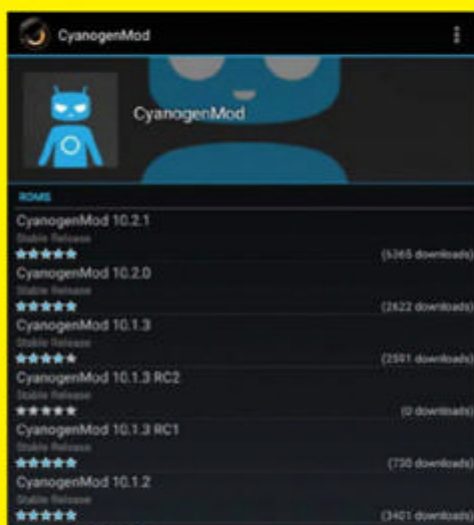
1 The ROM Manager

First up you will need to make sure you've got a compatible recovery manager installed. The app will walk you through the process and install one if you don't, but if you've rooted your device then it's likely you won't have to. When it's done, go back to the main page.



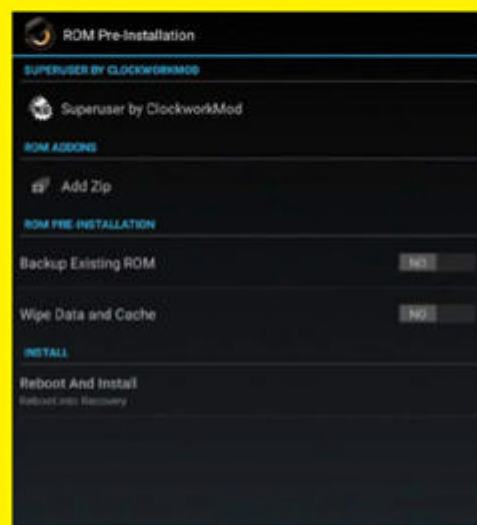
2 Download a ROM

Scroll down through the list of options on the front page of the app and tap on the button marked Download ROM. If you have already downloaded a ZIP of the ROM that you want to install, then you can tap on the Install ROM from SD Card option instead.



3 Choose your build

Pick the build of the ROM you want to install. You will probably need to do some research on the XNA Forums to find out which of the available ROMs are going to work best for your device. Once you have done so, tap on the ROM name to select it.



4 Reboot and install

Once you've downloaded the ROM, tap on the notification. This will take you to a list of options. Tap 'Reboot and Install' and the app will restart your device in recovery mode and flash the ROM to install it. Now you've got a ROM without needing to use your computer.

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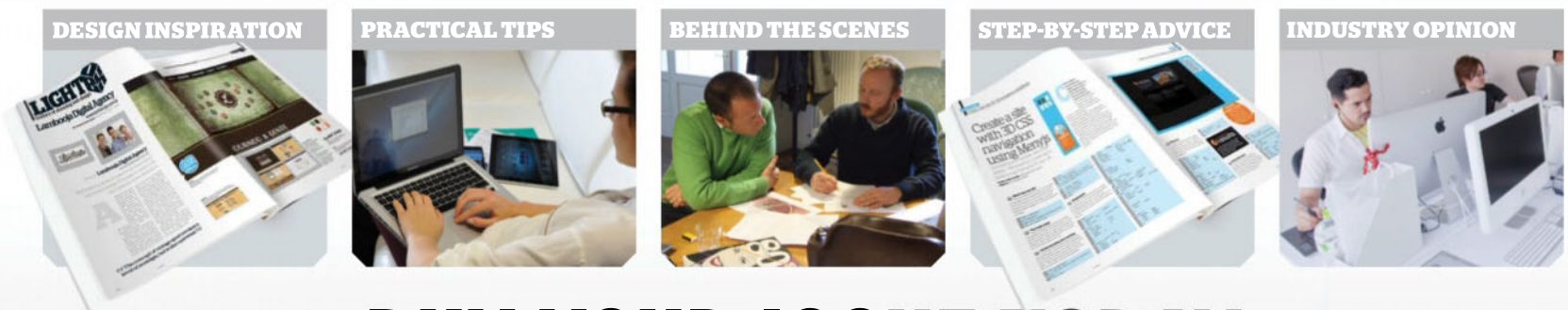


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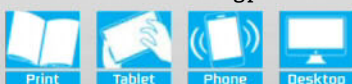


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status update

Which devices are best for the hacking scene?

Nexus 6

Rooted? Yes

Active Development:

High

Google's first phablet is easy to root, with hackers eager to exploit Android Lollipop's features.



Sony Xperia Z2

Rooted? Yes

Active Development:

Medium

Rooting the Z2 just got easier with XDA Forum user 'rafealbelo' successfully hacking a locked Z2 with no custom recovery.



OnePlus One

Rooted? Yes

Active Development:

High

This popular Chinese phone runs Cyanogenmod as standard, so is highly customisable.



LG G Watch

Rooted? Yes

Active Development:

High

Android Wear is easy to hack and Gohma is our recommended custom watch ROM.



Tips & Tricks

Too many devices?

Receive a new Android tablet or phone for Christmas? Still puzzled by the fact that you have too many devices attached to your account each time you go to install an app?

Although it is potentially useful for Google to retain details of your devices – particularly so you can track them in lost or stolen scenarios – the job of installing a new app on your latest device can be tricky if you have multiple Android handsets registered on the same Google account. If you're no longer using older devices, you can

hide them from your Google account (removal isn't possible), including any that you might have signed into in your local electronics retailer or borrowed.

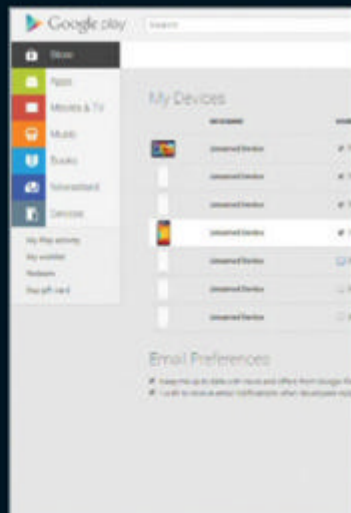
To delete your older Android devices from your account head to play.google.com/settings and deselect unwanted devices in the Visibility column.

Manage new device apps

After signing into a new Android device, you may want to prevent it from installing apps you have already purchased. For instance, an office app might be useless on your new

smartphone but you may use it regularly on your tablet. Android will attempt to automatically install all owned apps if Android Backup is activated on your account.

To prevent this from slowing down your enjoyment on your new Android device, it is worth deleting the backup data before you sign into the newer phone or tablet for the first time. Do this by opening www.google.com/settings/dashboard and clicking on the Android section. Here you'll find a list of all devices and Android ROMs you've had associated with your Google account. At the bottom click the button labelled 'Delete back up data', then proceed with signing into your new device. Backup can be re-enabled on any of your Android devices later in Settings>Backup & reset.



Deselect older devices to make app installation smoother



Delete backup data to stop apps being auto-installed on a new Android device

Disable bad vibrations

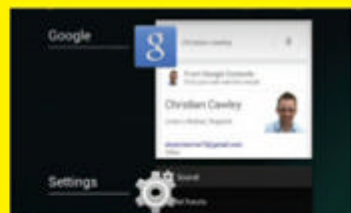
Vibrations can be beneficial. Having the vibrate mode enabled will let you know when your phone is ringing in your pocket or bag and it will also make a noise all of its own if your Android device has been placed on a hard surface.

Unfortunately though, it's also a bit of a battery killer. Disabling vibrate mode can increase your battery life, so if you don't really need it enabled

quick hacks

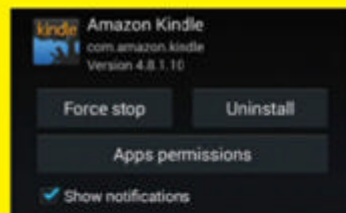
Close unneeded apps quickly

Having too many open apps may not slow down your phone but it will delay your ability to switch between them. Unlike desktop computers, it's easy to quickly close unwanted apps on Android.



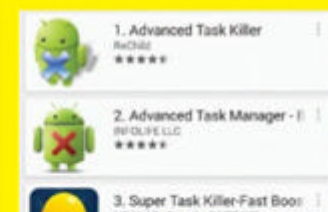
1 Use the App Switcher

Using the built-in app switcher tool is the obvious solution and is quickest when only a few apps are open. Hold down the Home button (HTC) or tap the app switcher button (Samsung) and swipe apps away.



2 Force stop apps

Another built-in tool is the App Manager. Found in Settings, you can find apps you want to close one-by-one by selecting the Force Stop button. Information on storage and cache is here. Both can be emptied.



3 Use a third party app killer

Other than restarting Android to close open apps quickly (which disables your phone momentarily), use a third party app killer to close all open apps with a single tap.

Share your tips

Got a great tip, or found a cool shortcut? Let us know!

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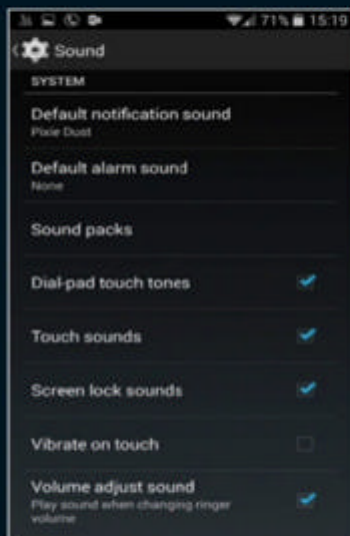
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Discovered anything good about your Android phone? Let us know!



Disabling vibrate mode will increase battery life

it is sensible to get rid of it altogether. Options for vibrate modes can be found in Settings – note that we're talking about more than just the vibration that is activated when your phone rings. Touching hardware buttons, typing and using the volume controls can all have an associated vibration, depending on the model of your phone. Switching these off can result in real battery benefits – what's not to like?

Ad Privacy in Settings

There's a fair chance that you have seen the Google Settings icon in your Android app drawer and decided to steer clear of it. However, hidden inside are a range of options that can be used to manage your Google account and how this

integrates with Android. Of particular interest is the Ads screen, where you will find the ability to Opt out of interest-based ads, which stops apps on your device from using your Google advertising ID in order to display ads based on your search interests. This can often result in the building of profiles using your data without you being aware.

With the 'Opt out...' option checked you can stop such profiles from being created, while the 'Reset advertising ID' button will replace an existing ID with a new randomly generated string that will prevent the existing profile from being used at any point in the future.

Use Google security

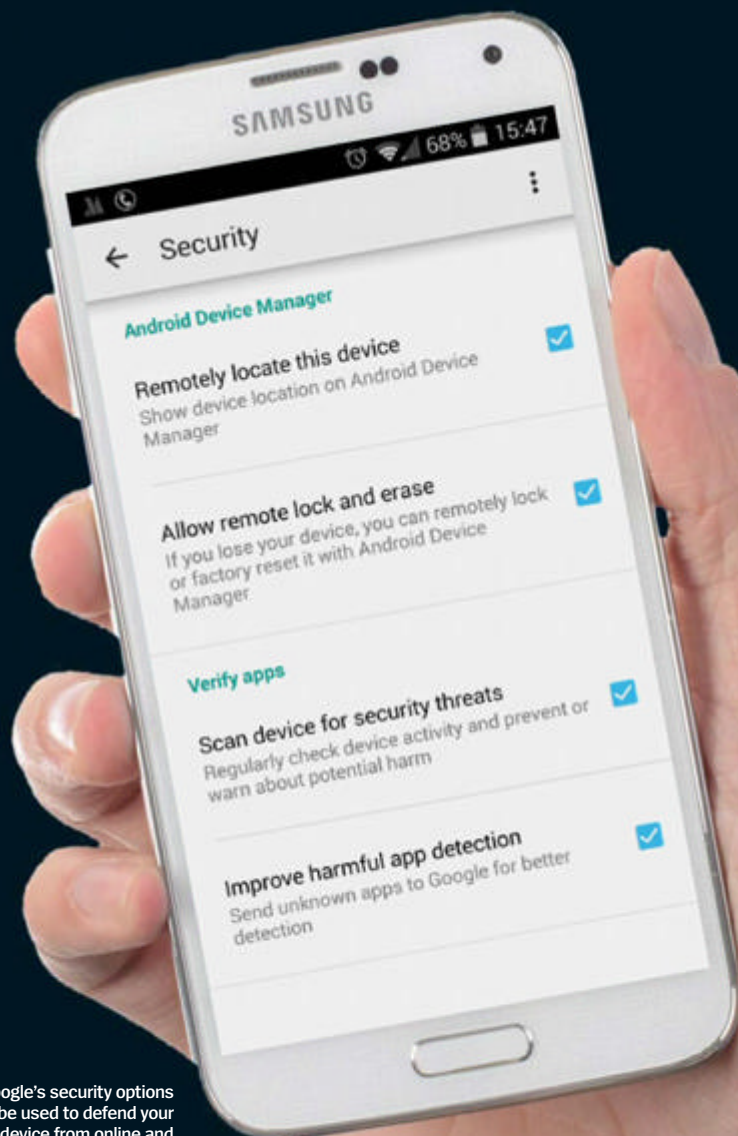
Also in the Google Settings app is the Security screen, where you'll find a quartet of options to provide security for your phone or tablet, online and physically.

Split into two sections, Android Device Manager is first. Here, you'll find the 'Remotely locate this device' option. When this is enabled, the location of your hardware can be seen from the Android Device Manager, which is accessible in your Google Account profile. This is joined by the 'Allow remote lock and erase' function, designed to give you total control over your device's data should it happen to be stolen.

The second section, Verify apps, offers a pair of active threat-focused tools. 'Scan device for

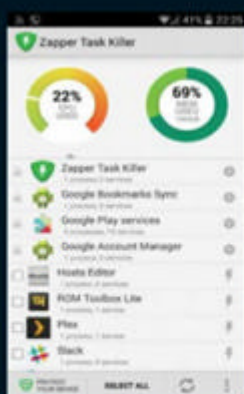
security threats' enables Google to check device activity and prevent – or warn – you about threats that could harm your Android or your data. Meanwhile, the 'Improve

harmful app detection' checkbox will aid Google's detection of bad apps. For the very best device security, make sure that all of these settings are enabled.



Google's security options can be used to defend your device from online and physical threats

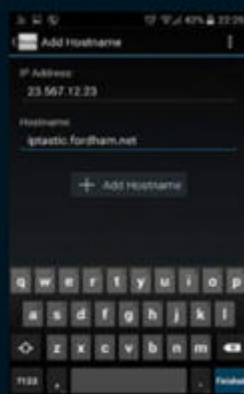
Hacking the easy way Get great new features without getting your hands (too) dirty



Zapper Task Killer & Manager

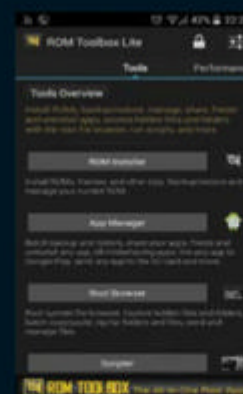
Price: Free
From: Google Play
Need root? No

Kill several apps at the same time with this time-saving utility which displays a list of anything that is currently running. Simply select multiple apps and click the Kill button to close them.



Hosts Editor

Price: Free
From: Google Play
Need root? Yes
If you need to block access to a particular website or access a different version usually hidden by your DNS, this Windows-style hosts file editor is the tool you need.



ROM Toolbox Pro

Price: £3.99/\$5.99
From: Google Play
Need root? Yes

Need help installing or tweaking ROMs? This is a must-have for all ROM flashers, jam-packed with tools and features to put you in total control of your ROMs.

Check our website daily for even more tips & tricks

» www.littlegreenrobot.co.uk

Works with » Nexus 5 Difficulty » Intermediate

Get Ambient Display on your Nexus 5

Turn your Nexus 5 into a Nexus 6 with ambient display notifications



Ambient Display is a new display setting exclusive to the Nexus 6. When ambient display is enabled, the device shows a slick black-and-white lock screen whenever a new notification comes through to your device.

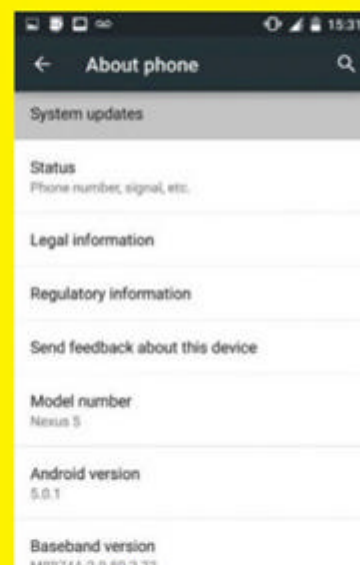
If you want to take a closer look at a notification, just tap the screen to launch the full colour version of the lock screen. From here, you can jump straight to the app or screen that a particular notification relates to simply by double-tapping that notification. Ambient Display notifications also appear

automatically when you pick the device up, thanks to the Nexus 6's nifty 'lift to wake' functionality.

Although the Lollipop update brought many new features for Nexus 5 users, it didn't include Ambient Display. However, it is possible to get Ambient Display on your Nexus 5, either by flashing a custom ROM with support for the feature or by flashing an Ambient Display ZIP, both of which work well.

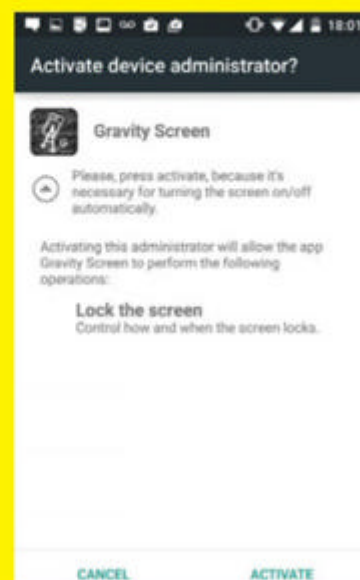
But neither of these mods replicate the stylish 'lift to wake' feature, but you can still add this to your Nexus 5 by installing the Gravity Screen On/Off app.

This tutorial shows you how to get the full Ambient Display experience on your rooted Nexus 5, by flashing the custom ROM or the Ambient Display zip and then installing Gravity Screen. It also explores some additional Gravity Screen settings that can help you get more out of your Ambient Display experience.



1 Check for updates

The first step is to ensure that you are running Lollipop. Go to Settings>About phone and check the Android version number. If your device hasn't updated to Lollipop, force it to look for updates. From the About phone screen, tap System updates and then 'Check for update' to search for relevant updates.



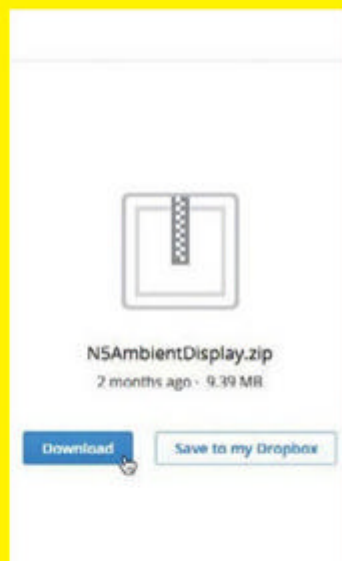
6 Download Gravity Screen

At this point you have Nexus 6-style notifications and ambient display, but not its 'lift to wake' functionality. To add this functionality to your Nexus 5, head to the Google Play store and download Gravity Screen On/Off. Once it's finished downloading, launch the app.



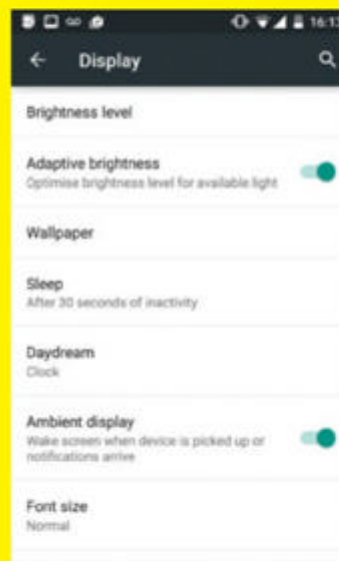
2 Flash Android Lollipop

If you've rooted your device, it's possible your Nexus 5 is no longer recognising Over-The-Air (OTA) software updates. If this is the case, you'll need to install Lollipop manually. Download the Nexus 5 update from bit.ly/1u561dQ and then flash it to your device.



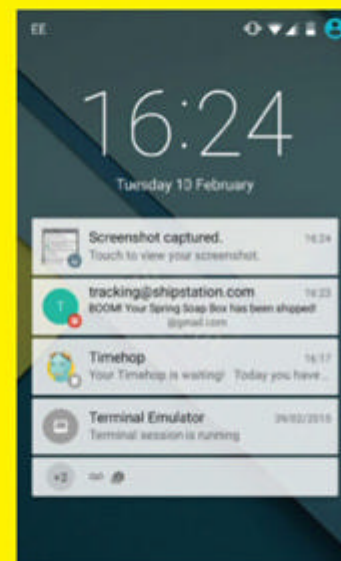
3 Flash Ambient display ZIP

Once you've installed stock Lollipop on your device, either flash a custom ROM or flash the ambient display zip. To flash the zip, download the file from <http://bit.ly/1zd1Trm>, then boot into your custom recovery and select 'Install update from zip card'.



4 Enable Ambient display

Select the Ambient display ZIP file and select Yes – Install. Once installed, reboot your device. You should now have Ambient display on your Nexus 5. If you aren't seeing Ambient display notifications, ensure it's enabled by going to Settings>Display>Ambient display.



5 Flash xTraSmooth

Another option is to flash the xTraSmooth for Nexus 5 ROM which includes Ambient display. On your device, go to bit.ly/1DOEUdQ. Then download the ROM and boot your device into custom recovery. Flash and reboot your device – you should now have Ambient display on your Nexus 5.



7 Turn off automatically

Tap the Activate button and read the on-screen warning, tap OK and relaunch the app. You can now edit your Gravity Screen On/Off settings to your liking. Start by telling the app what angle your phone needs to be at for the screen to automatically turn off.



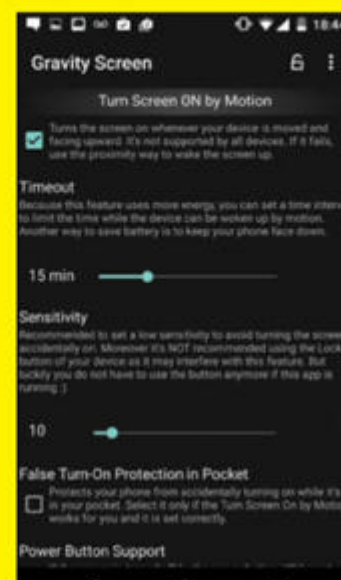
8 Set pocket sensor

Use the Pocket Sensor slider to set the desired angle – think about how you angle your phone when you're popping it into your bag or pocket. To start using this feature properly, tap the On/Off button in the app's upper-left corner so that it is in the On position.



9 Lift to wake

If you are after the 'lift to wake' functionality, enable 'Turn Screen ON by Motion' and your device will wake up automatically when it's moved and facing upwards. You can also enable 'Turn Screen ON by Proximity,' so your device wakes up whenever the proximity sensor is uncovered.

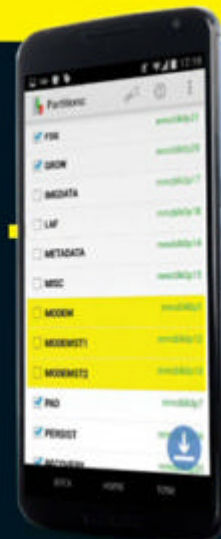


10 Sensitivity and Timeout

To save battery, you can tweak how sensitive your screen is to being turned on by motion. Drag the Sensitivity slider to the desired position. You can also limit how many times your device is woken by motion within a certain time period using the Timeout slider.

Works with » Varies with device Difficulty Level Easy

Easily backup individual partitions



Save yourself time and memory on your device, by creating backups of specific files

When you're modifying your Android device, you should always create backups, particularly before performing larger customisations such as flashing a new ROM. Although it's sometimes necessary to perform a complete backup, if you're making smaller changes to your device then a full backup isn't always necessary. Partitions Backup & Restore is a free app that lets you to create backups of specific partitions, such as

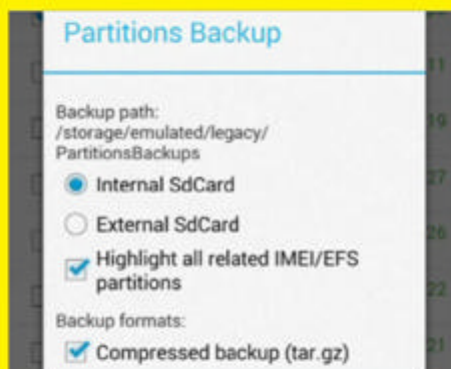
the files that boot your phone, your device's operating system, or your user data. This app detects all the partitions on your device and enables you to make a backup of each partition individually.

Partitions Backup & Restore requires root. If you want to use this app to restore a partition, you'll also need to have a file explorer app installed, such as the ES File Explorer, which is available as a free download from the Play store.



1 Download Partitions Backup & Restore

Install Partitions Backup & Restore from the Play store. Once the app has downloaded, launch it and grant Superuser permissions. Then choose where your backups will be stored and in what format, so tap the wrench icon in the toolbar.



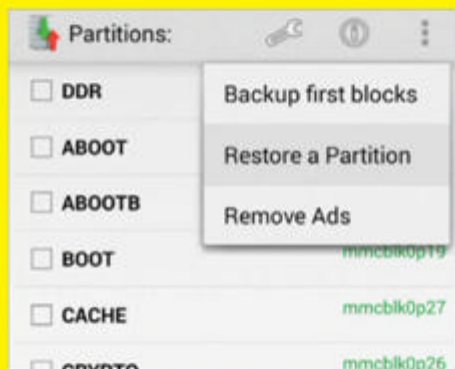
2 Choose the format and location

Choose if you want backups stored on the external or internal SD card and pick a format. Raw is the usual format but Compressed backup saves space. On a Samsung device, TAR archive has backups you can restore via Odin.



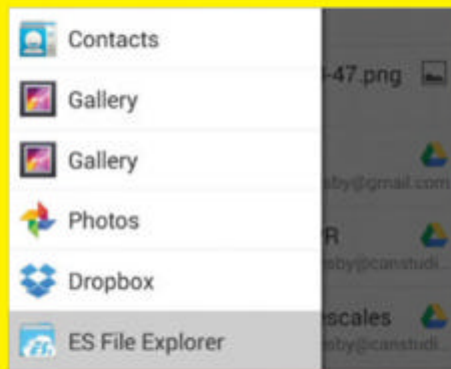
3 Make your backups

On the main menu tap all the partitions you want to backup. Tap the blue circle and select Backup. Once the backup is complete, you'll see a message that the files have been saved to a new 'PartitionsBackups' folder. For extra security, copy these files to your computer.



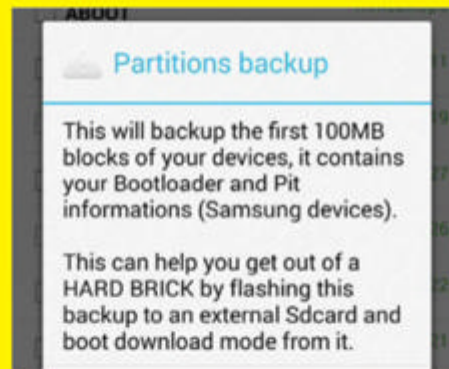
4 Restore a Partition

You can also use the app to restore a partition, as long as the file is a Raw partition image with the .img extension. To restore a partition, tap the three-dotted icon in the app's top-right corner and select 'Restore a partition.' Read the warning and then tap OK.



5 Navigate to PartitionsBackups

In the side-menu, select your file explorer app and go to the 'PartitionsBackups' folder. Tap the file you want to restore. It's useful to backup the first 100MB of your device's internal memory to help you recover a hard-bricked device.



6 Backup first blocks

Tap the three-dotted icon and select 'Backup first blocks.' If you get a hard-brick, copy the backup file to an external SD card, insert it into your device, copy the bootloader across, boot into download mode and download the PIT, PDA, CSC and PHONE files.

Customise your device's soft keys

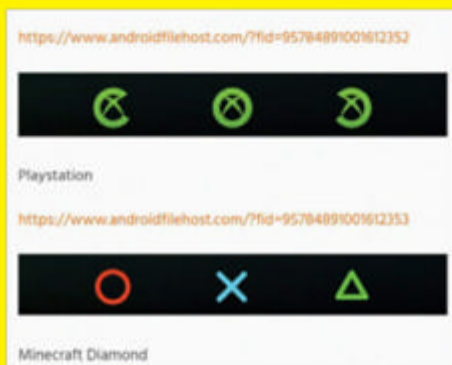
Modify the functions of your handset's buttons with ZIPThemer and Candy Shop

If you're not a fan of the Lollipop soft keys or you just want to try something new, you can replace your device's soft keys with a whole range of different graphics. Candy Shop is a huge collection of customisations covering many aspects of the Android user interface, including soft keys.

This tutorial shows you how to apply any of the Candy Shop soft key modifications to your rooted device. Although this is written with the Nexus 5 and

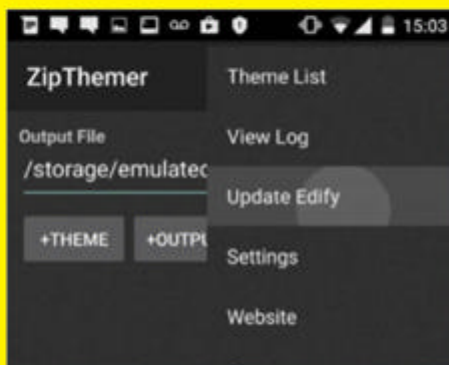
Lollipop in mind, most of these modifications should work on any device running an AOSP ROM.

Before you start, you'll need to have a custom recovery installed and access to a ROM that's stored on your device and is in a flashable format. If you installed your current ROM via a flashable update, then this ZIP file ideal.



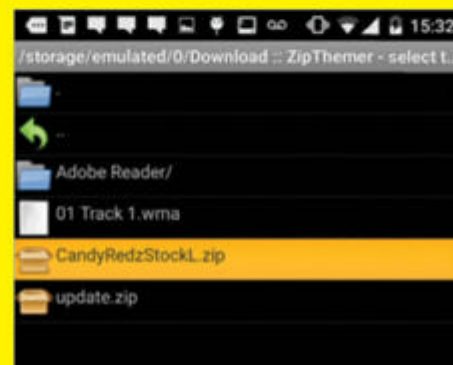
1 Choose your graphics

Head over to Google Play and download the free ZipThemer app. Next, go to the XDA Developers thread <http://bit.ly/1BNruOx>, which contains lots of different soft keys that you can apply to your device. Download the Zip file(s) you want to try on your device.



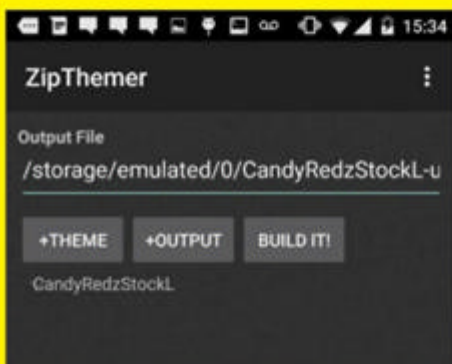
2 Configure your ROM

Launch the ZipThemer app. Tap the three-dotted menu icon and select Update Edify. Then tap Browse and navigate to the folder where you stored your custom ROM's zip file. Select the zip and tap Configure. After a few moments, you'll see a Success message.



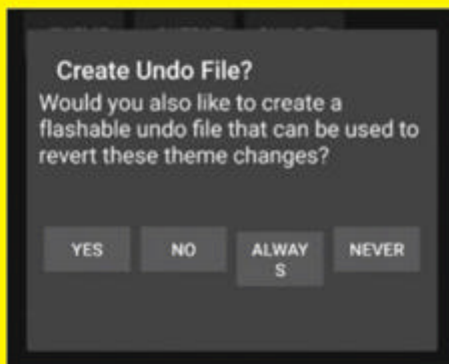
3 Add your +Theme

Return to the main ZIPThemer screen by tapping the back soft key. You'll see the Output path has updated to include your selected ROM. Tap +Theme and navigate to your Download folder. Find the Candy Shop ZIP you want to use and give it a tap to select.



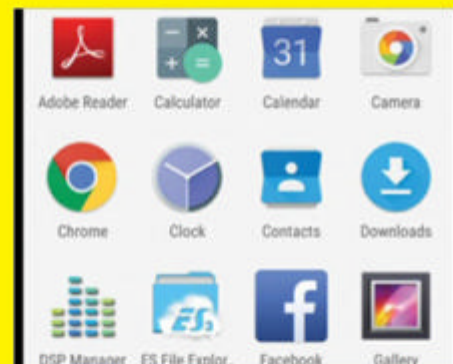
4 Build it

To make the generated ZIP file easier to find when you come to flash it, you may want to change the location where the file is stored. To do this simply tap and edit the Output path. Then when you're ready to create your file, tap Build it!



5 Undo File

The first time you create a ZIPThemer file, the app asks whether you want to create a flashable Undo File too. If you don't like your changes, you can remove them quickly and easily by flashing this Undo file, so for now tap Always. The app will then create your files.



6 Flash and reboot

Boot into your device's custom recovery, flash your new ROM and then reboot your device. You should now have some new-look soft keys! If you're unhappy with the result, you can revert to your old soft keys by booting back into recovery mode and flashing the Undo file.

Works with » Varies with device Difficulty » Intermediate

Reverse USB tethering for Mac

Share your Mac's Wi-Fi connection with your Android phone or tablet

Tethering is where you share your Android device's internet connection with other devices, such as your laptop. But sometimes it makes more sense to share your computer's internet connection with your Android. This can be achieved via reverse USB tethering.

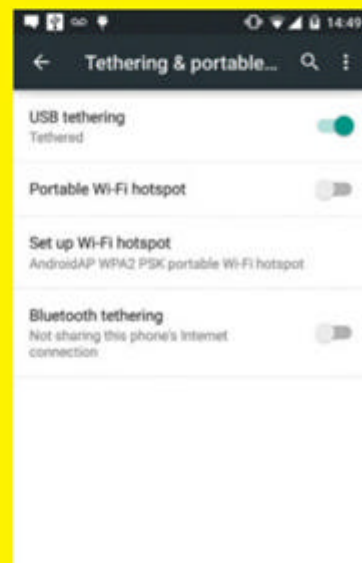
Reverse USB tethering is useful in several situations. For example, maybe there's only a

single internet port available and you want Internet access on both your Mac and your Android, or maybe you're running low on battery and want to charge your Android device while accessing the internet.

This tutorial shows you how to reverse tether. This requires a rooted device with USB tethering capabilities. To check whether you have access to USB tethering, connect your Android to your computer using the USB cable. Then access your Android's Settings>More>Tethering and portable hotspot and check whether you can select USB tethering. If you can't select USB tethering, you will need to flash a ROM that has USB tethering enabled, such as CyanogenMod.

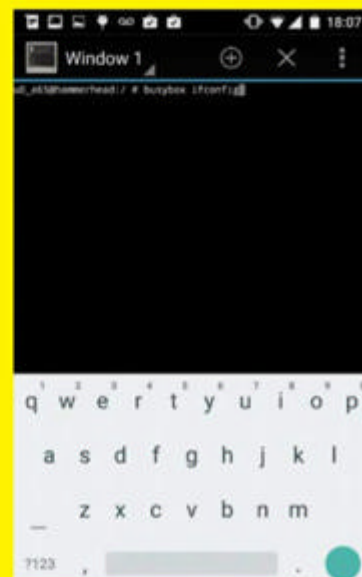
You'll also need to have BusyBox and Terminal Emulator installed on your device, both of which are available from the Google Play store.

Once you've successfully reverse tethered, the final few steps show you how to quickly and easily share your Android device's internet connection with your Mac, so regardless of which device has the internet connection originally, you will always be able to access it on both your Mac and your Android.



1 Enable USB tethering

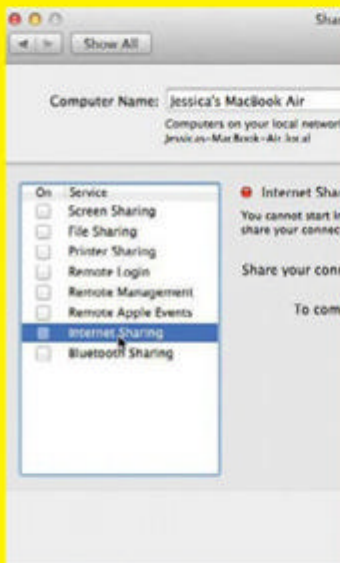
Connect your Android device to your Mac with the USB cable. On your Android, go to Settings>More>Tethering & portable hotspot>USB tethering. Then on your Mac go to bit.ly/1vvDXUK and download the HoRNDOS driver so that your Mac can use Android's USB tethering mode.



6 Experimental fix

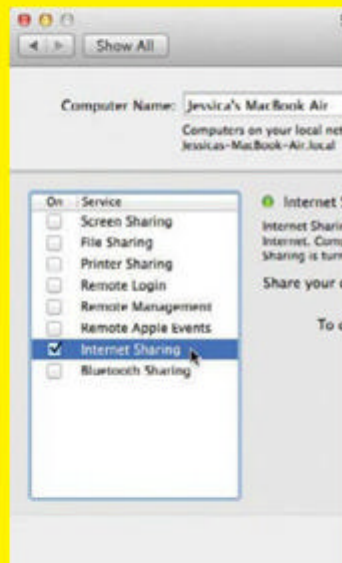
If you do find that some apps are failing to connect to the Internet, then you may be able to kick-start the connection using an experimental fix. To do this, launch the Terminal Emulator. The first step is finding the name of your specific 3G interface, so enter `busybox ifconfig` to begin a full search.





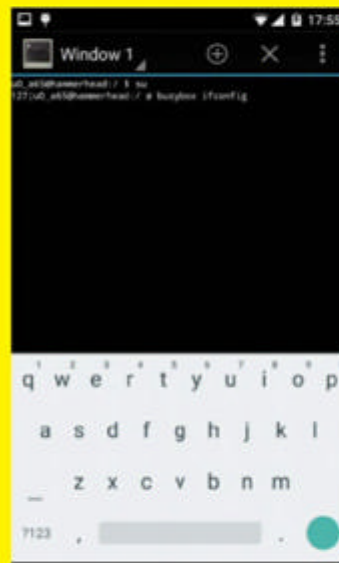
2 Internet Sharing

Once the driver has downloaded, launch it and follow the installation instructions. At this point your Mac may notify you of a new network interface. If it does, click Network Preferences and select Apply. Open your Mac's System Preferences and select Sharing>Internet Sharing option.



3 Enable Internet Sharing

Open 'Share your connection from:' and choose your regular internet connection, for example, Wi-Fi. In the 'To computer using:' section, select your Android device. Then check internet sharing. If a warning appears, read it and if you are comfortable, click Start.



4 Launch terminal emulator

On your Android device, open the Terminal Emulator and type su. Enter busybox ifconfig which will return the name of your USB interface – usually either rndis0 or usb0. The following commands use the interface rndis0 but if yours is usb0, then use this instead.



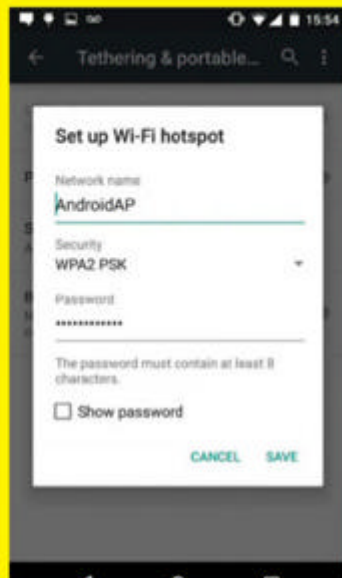
5 Reverse USB tether

Enter 'netcfg rndis0 dhcp'. Close the Terminal Emulator. Your Android device should now have access to your Mac's internet connection. It's possible some of your apps may not recognise the USB tether as an internet connection, so at this point it's worth testing a few of your apps.



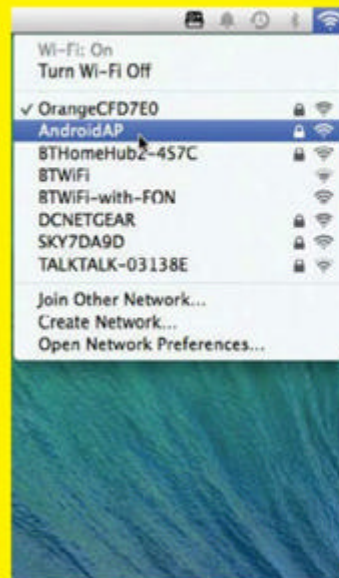
7 Force USB connection

Turn on your 3G connection. Then return to the Terminal Emulator and run the following, replacing 'your-interface' with the name of your 3G interface 'ifconfig your-interface 0.0.0.0'. Disconnect your 3G, test the apps again and you should have internet connection.



8 Use Wi-Fi hotspot

You may want to share your phone's internet connection with your computer. The best way is to turn your Android into a portable Wi-Fi hotspot. On your device, select Settings>More>Tethering & portable hotspot>Set up Wi-Fi hotspot. Tap Security and ensure your hotspot is password-protected.



9 Connect to AndroidAP

Return to the main 'Tethering & portable Wi-Fi hotspot' screen and tap 'Portable Wi-Fi hotspot'. Then open your Mac's Wi-Fi menu and choose the new AndroidAP network. Enter your password and after a few seconds your Mac should be sharing your Android device's Wi-Fi.

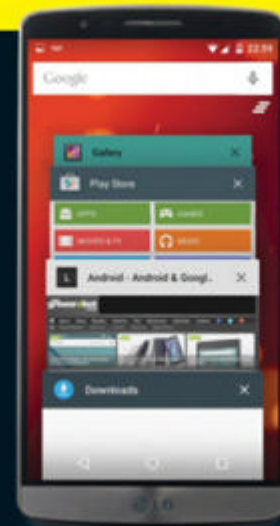


10 Try a shortcut

If you find yourself making heavy use of your Android's hotspot capabilities, you may want to download an app that makes it easier to toggle this feature on and off. One such app is Portable Wi-Fi, which you can download for free from the Google Play store to aid easy hotspot usage.

Works with >> Android 5.0.1 Difficulty Level >> Easy

Add a Clear All Recents button



Close all running apps and windows across your Lollipop device with just a single tap

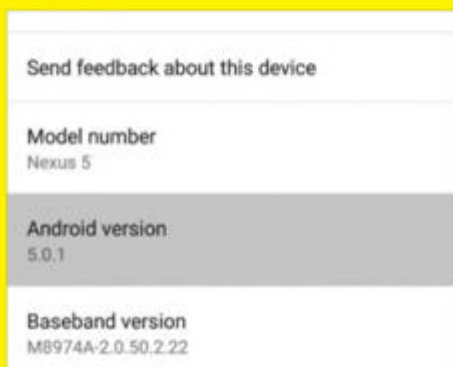
Do you have a habit of leaving windows and apps running in the background? This kind of multitasking can affect the performance on your device and makes returning to a particular screen more confusing, as you need to trawl through multiple tasks running on your device.

Lollipop does have an overview soft key that displays all the apps, windows and other tasks that are running on your device, but you can only dismiss

them one by one by swiping. This makes closing multiple tasks a frustrating and drawn-out process.

The good news is that if you're running Android 5.0.1, you can download a Clear All Recents button that appears whenever you tap the overview soft key. Then you can close all running tasks quickly and easily by simply tapping this button.

To follow this tutorial you require a rooted device, a custom recovery and stock Android 5.0.1.



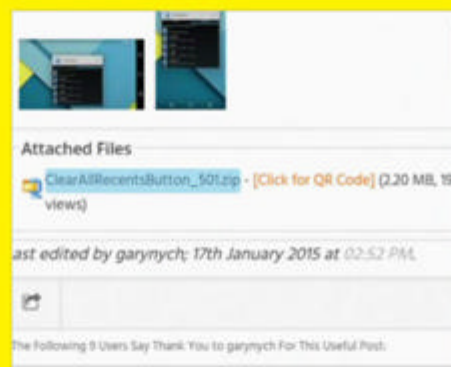
1 Check your version

The Clear All Recents button is only guaranteed to work on version 5.0.1 of stock Android, although it may work on some 5.0.1 custom ROMs. To check what version of Android you're running, go to Settings>About Phone and then take a look at Android version.



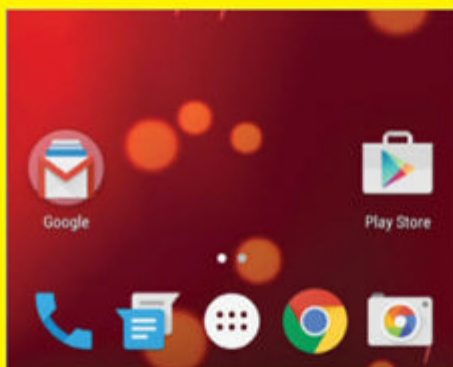
2 Flash Stock 5.0.1

If you're not running 5.0.1, you'll need to flash the 5.0.1 factory image. Nexus users can grab these files from the Google Developers website, whereas other users should go to the XDA Developers forum, navigate to their device's board and search for a 5.0.1 thread.



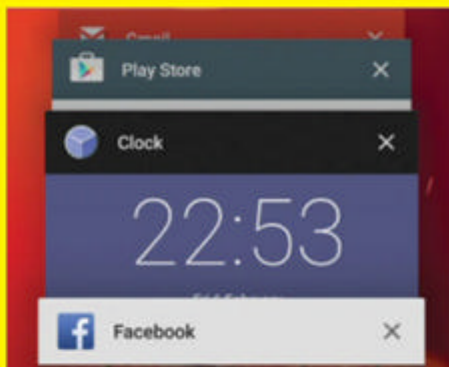
3 Clear All Recents zip

Navigate to <http://bit.ly/1B5RRia> in your device's browser and download the Clear All Recents button zip. Once this complete, boot your device into custom recovery mode. Then use the volume and select buttons to select Install Zip, followed by 'Choose zip from /sdcard'.



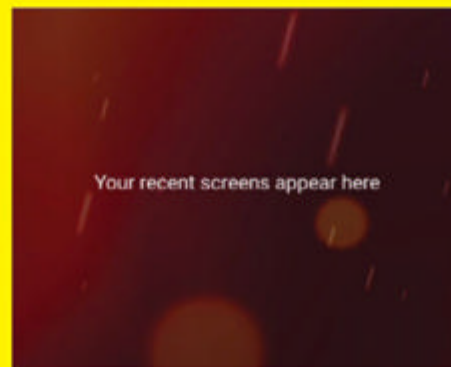
4 Install & reboot

Go to the Download folder, select the 'ClearAllRecentsButton.zip' file and then select Yes-Install. Once the file has finished installing, reboot your device. When you first boot your device, you won't see the Clear All Recents button straight away.



5 Launch some tasks

To see your new Clear All Recents button in action, open a few apps and windows on your device and leave them running in the background. Then tap the square overview soft key, which displays all the tasks that are currently running on your Android device.



6 Clear all recents

You'll see a new, triple-line icon above your currently running tasks. Give this Clear All Recents button a tap and all your tasks will disappear. To check this button is working correctly, tap the overview soft key again and your device should have nothing to display.

FOR THE GNU GENERATION

www.linuxuser.co.uk

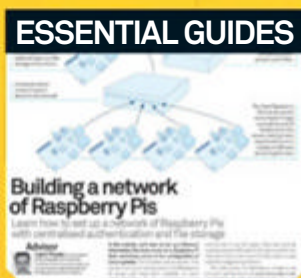


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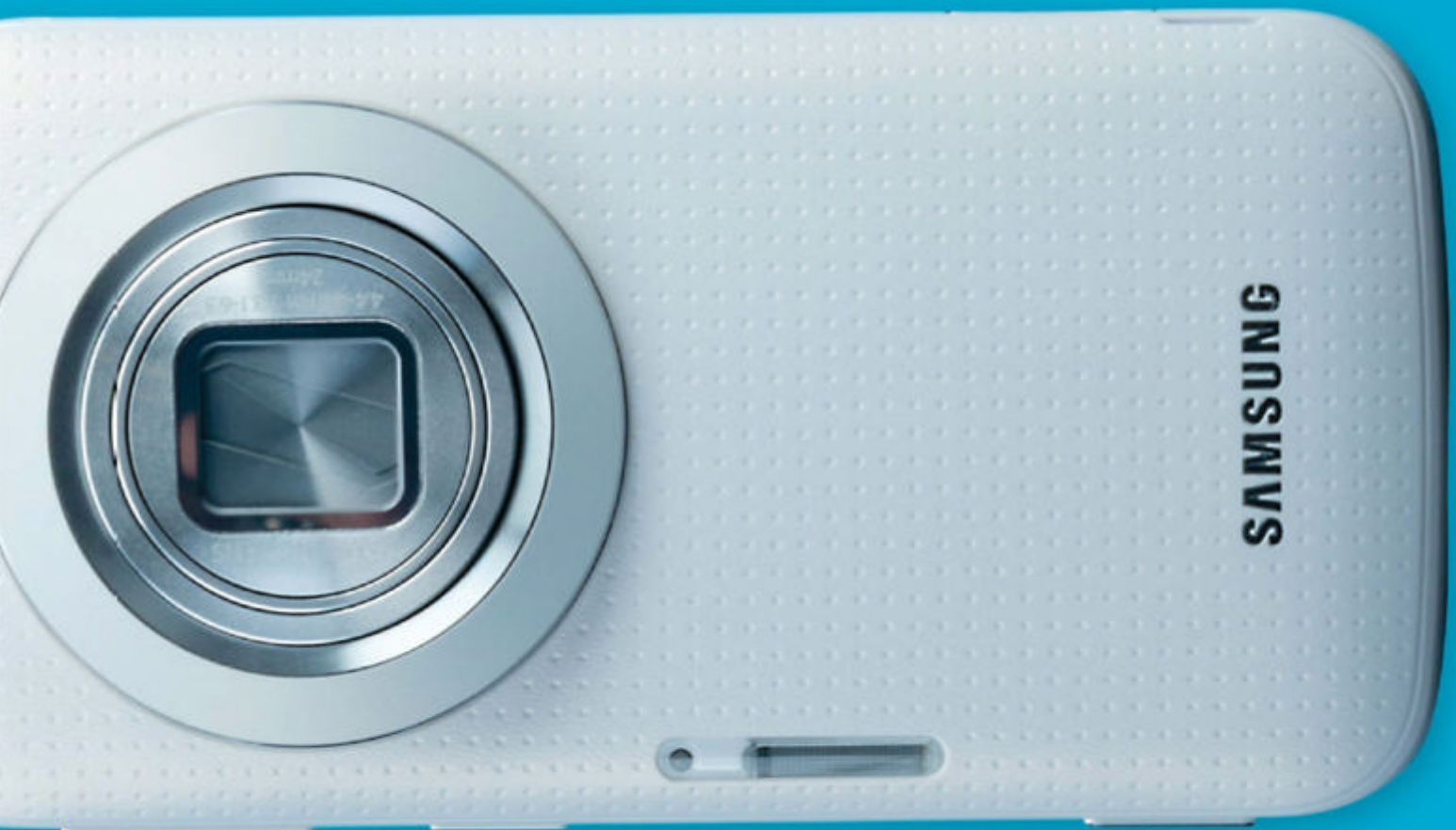


Top camera phones

Whether you're snapping selfies in your room or capturing incredible landscapes, we reveal the best camera phone on the market

When debating what new phone to get, the quality of the camera is often high on the list of every buyer's must-have features. With so many phones on the market boasting similar screens, battery life and processors, the ability to take a good picture could make or break a purchase decision. With camera technology reaching the point that any more megapixels would be a waste, extra features are becoming increasingly important to smartphone manufacturers trying to stand out from the crowd. The mid-range market seems to be rapidly becoming the main battle ground. While the higher end of the market is occupied with

dedicated fans of brands and the lower end with those who mostly just want a functional phone, the mid-range market is full of users looking for particular features without breaking the bank. With this in mind, we've decided to test four of the leading mid-range phones that pride themselves on their cameras to see which is best. The Samsung K Zoom is able to draw on Samsung's dedicated digital camera division, but HTC are critically-acclaimed for their camera features. The LG G3 boasts a laser-guided snapper, while the Honor 6 was something of a surprise hit. Which will claim the title of best mid-range camera phone? Read on to find out.



Samsung Galaxy K Zoom information

Price **£400/\$TBC**

» More information www.samsung.com

» Supplied by **Samsung**

technical specs

- » Operating system.....**Android KitKat 4.4.2**
- » Processor.....**Exynos5 Hexa-Core 1.7GHz**
- » Memory.....**2GB RAM**
- » Dimensions.....**137.5 x 70.8 x 20.2mm**
- » Weight.....**200g**
- » Display size.....**4.8-in**
- » Display resolution.....**720 x 1280**
- » Connectivity.....**4G, Wi-Fi, Bluetooth 4.0**
- » Camera.....**20.7MP rear, 2.0MP front**

» head-to-head

Pixel count

At 20.7MP, the K Zoom has one of the highest megapixel counts of any smartphone on the market. Although the screen is only 4.8" and not great for viewing the photos, the quality of the camera still shines through

Ease-of-use

The extendable lens looks formidable, but the K Zoom is easy to use. A button in the bottom-right corner means you can take one-handed pictures and the various modes are extremely simple to navigate

Added features

There are lots of functions available to the K Zoom user, although there is little that isn't already standard on Samsung, like Panorama and Continuous Shot. Pro Suggest is new though and it's excellent

Front-facing camera

The 2MP front-facing camera is surprisingly sharp. You can also use the rear camera, choosing where you want your face to appear before flipping the phone over to take the shot

» Verdict

Phone-wise it's basically a mini S5, but the photographs it produces are some of the sharpest we've seen, even at full zoom. A great choice if you don't mind the bulk



Super stable

The K Zoom is one of very few Samsung products to contain Optical Image Stability – the anti-shake technology used by many of its competitors. Even when in zoom mode, this keeps images very clear

Video recording

The K Zoom is capable of filming 1920x1080 FHD video at 60fps. While you can zoom during filming, it is a bit cumbersome and slow, although the image remains crystal clear. Refocusing happens quickly and automatically

BSI CMOS sensor

The K Zoom creates good quality low light images because of its BSI CMOS sensor. In this configuration, all the wiring is placed behind the light-receiving surface, meaning less is needed to create a visible image

Xenon flash

If you want to take top quality photos day and night, a good flash is required. The K Zoom uses xenon rather than LEDs in its flash, which travels further and looks much less artificial



Samsung Galaxy K Zoom

The smartphone that gets you closer to the action than ever before

Samsung has a good relationship with camera phones. The snappers on their Galaxy range regularly run a much higher megapixel count than most of their rivals, bar Sony. However, they have really pushed the boat out with the Galaxy K Zoom which packs a fully extendable lens inside its casing. This provides the 20.7MP camera with 10x optical zoom, which after a bit of focussing, is surprisingly sharp, magnifying pictures and words from over 10 metres away. It comes loaded with a wide range of features, the best of which being Pro Suggest. This mode takes in the scene in front of it and suggests a range of filters for the shot which are applied instantly. These are based on the lighting and scene in front of the camera and are quite intuitive. There are also further filters that you can download for free from the Samsung store. However, all of this does come at a bit of a cost. The space required to store the retractable lens adds extra bulk to the



phone. So while the handset the same squat size as the Galaxy S3, at 200g it is heavier than even the Galaxy Note 4.

The protruding lens also means that the K Zoom doesn't sit flat on table and is a hefty presence in your pocket. However, the weight, while noticeable, doesn't make a lot of difference during use and if you get over the way it rests, the K Zoom does actually look pretty cool. The S5-style textured case and superior lens makes it look like a serious piece of kit. With its incredible zoom and easy use, the K Zoom is a well designed device for event photography – whether you're at a festival or sporting occasion – and its panorama and continuous shot options ensure that you never miss a thing. The K Zoom's 4G connectivity means you can upload any great picture straight to social media. Running Android KitKat, it's hard to say whether the K Zoom is a phone with a heavy emphasis on photography, or a digital camera with smartphone features.

Voice command

Pressing a button or a screen can prove tricky when trying to do it one-handed, so HTC has included voice commands to make it easier to keep your photographs completely shake-free

Wide angle

To back the Desire Eye's bid to be the ultimate selfie camera, it includes a wide-angle option to fit more people in a shot. It also includes auto-focus, something rarely found on front-facing cameras

Face tracking

The Desire Eye has advanced face-tracking technology included in its front-facing camera to keep the user visible and in focus during group photos. It also works during video calls, which is a very useful feature

Face merge

One of the Desire Eye's main extra features is the face-merge. Choose two photos from your gallery and use a sliding scale to merge features together and create a cool but slightly scary composite image of two people

HTC Desire Eye

With a greater emphasis on the front-facing camera, this is the camera for snapping selfies

If there is one manufacturer who's embraced the selfie generation, it's HTC. The Desire Eye boasts a whopping 13MP front-facing camera, which could seem like something of an overreach – after all, there are plenty of 5MP front-facing cameras that are perfectly adequate for close-up snaps. However, if you love a selfie in front of a landmark or are into shooting Vines on your phone, the Eye caters for you magnificently. The standard Beauty Face application can be toggled pre- and post-shot and the ISO options are easily found and instantly applied. Setting up voice control for button-free selfies is also easy but it's over-sensitive, resulting in a number of unflattering photos. HTC has worked hard to put the fun into the camera with a range of extras, such as Photo Booth, Face Merge and a raft of filters and editing options. In terms of personalising your photographs, it's the standout model of the four. The rear-facing camera is also 13MP and comes with various



camera and video modes. The slow motion video function is easy to use and the lighting options are excellent too. HDR mode provides a notable difference if you aren't keen on using the powerful LED flash present on both cameras. The dedicated shutter button on the side is a good addition. It often took longer to focus than we would have liked but once it did, the Face Tracker did its job well in selfie mode and sharp images were created with the rear camera. The HTC's screen is stunning and all pictures were reproduced with vibrant colours, which will please the photography crowd no end. This phone is definitely targeted at the teenage market due to its unique colouring, powerful front camera and wide variety of wacky editing options. There isn't a lot here for the camera enthusiast, so if you're looking to create art then you would be best to look elsewhere. However, if you are after a very good phone with a camera primed for your Facebook page then this is one of the best options to go for.

Group test

HTC Desire Eye information

Price **£399.99/\$459**

» More information www.htc.com

» Supplied by **HTC UK**

technical specs

- » Operating system..... **Android KitKat 4.4.2**
- » Processor..... **2.3GHz Quad-core Qualcomm Snapdragon 801**
- » Memory..... **16GB RAM**
- » Dimensions..... **151.7 x 73.8 x 8.5mm**
- » Weight..... **154g**
- » Display size..... **5.2-in**
- » Display resolution..... **1920 x 1080**
- » Connectivity..... **4G, Wi-Fi, Bluetooth 4.0**
- » Camera..... **13MP rear, 13MP front**

» head-to-head

Pixel count

At 13MP it is one lowest resolution rear cameras in this test, but its photos still look sharp on the hi-res screen. Off-camera, however, the photos are noticeably less clear than the three rival phones

Ease-of-use

Everything is located along a translucent, removable side bar. A bit of guesswork is needed to find some of the more elaborate camera functions, but Voice Control and the dedicated shutter button are pluses

Added features

The Desire Eye comes loaded with fun photography features. Split Capture and Photo Booth create crazy pictures while there are lots of basic manual modes, like changing the ISO and white balance

Front-facing camera

The front-facing camera really is the Desire Eye's main selling point. 13MP is more than enough for the close-up nature of front-facing snaps, and the flash means that you'll never have a dodgy, dark photo ever again

» Verdict

The Desire Eye is a reasonably priced, upper-mid range phone. The front-facing camera is excellent, with a good rear-facer. It's fine for all bar the enthusiast



LG G3 information

Price **£390/\$599**

» More information www.lg.com

» Supplied by **Clove.co.uk**

technical specs

- » Operating system.....**Android 4.4 KitKat**
- » Processor.....**2.5GHz Quad-core Qualcomm Snapdragon 801**
- » Memory.....**2GB RAM 16GB storage**
- » Dimensions.....**146.3 x 74.6 x 8.9mm**
- » Weight.....**140g**
- » Display size.....**5.5-in**
- » Display resolution.....**2560 x 1440**
- » Connectivity.....**4G, Wi-Fi, Bluetooth 4.0**
- » Camera.....**13MP rear, 2.1MP front**

» head-to-head

Pixel count

Overall the LG has the lowest pixel count in the test – 13MP on the rear and 2.1MP on the front is pretty standard for mid-range models, but is definitely lacking when compared to its three rivals in this test

Ease-of-use

For the point-and-clicker, this is a very simple camera. Voice control is excellent and the shutter button is nice and large. Editing options are well organised too, with clear sliders and instructions on how they work

Added features

Sadly the added features are fairly limited. Standard tools such as cropping and a nice range of filters, don't disguise the fact that there is little for the camera expert or the casual photographer

Front-facing camera

2MP is pretty much the same level as the Samsung but it doesn't feel as sharp. It also has the fewest extra functions to play with, so if you don't like messing about with your selfies then there isn't a lot to do

» Verdict

There are a lot of very good points to appreciate in the G3 and the OIS is fantastic, but LG should have put a little more work into its front camera and editing tools



Gesture control

A simple movement of the hand is enough to take a photo in selfie mode. This is particularly useful when you're trying to take a one-handed shot and it works excellently

Clear screen

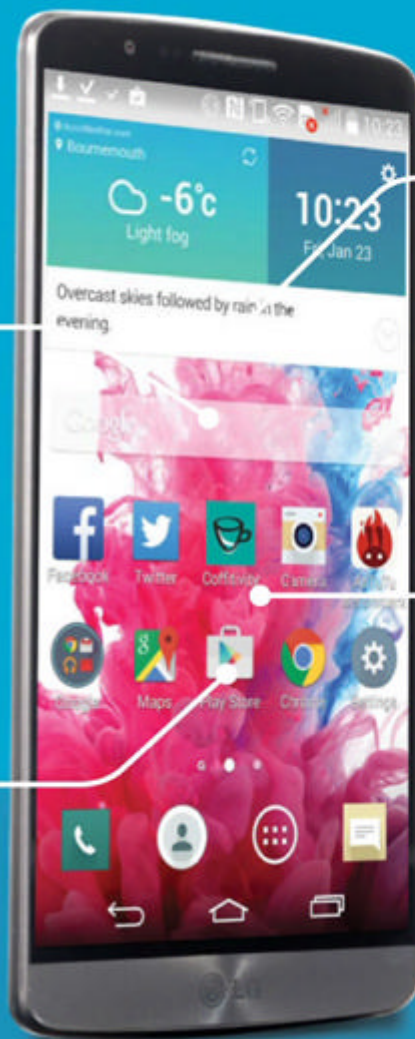
LG has removed all of the icons from their screen when you're shooting, so there are no irritating pictures getting in the way of your shot. They are easily found again though, simply by tapping the top-right corner

Dual LED

The dual LED flash system lights the shot from the right and the left of the shutter. This creates a more even light than the single LED flash systems found in a lot of phones

Viewing pleasure

The incredible pixel density of the G3 means that photos can be viewed in stunning clarity, enabling you to edit your snaps with confidence, knowing they'll still look great on the bigger screen



LG G3

The smartphone with laser-guided focusing

If you are the kind of person who loves taking spontaneous snaps, then the LG G3 is for you. Its two headline features are its Optical Imaging Stabilisation and its laser-guided focus beam. These combine to form a camera app that not only focuses quickly, but can also take an excellent, steady photo. Capturing a moment with a phone often means an unfocused picture or a blurry streak. Not on the G3, which copes with a moving camera or target. The front-facing camera is much less adept, however, and when held at arm's length image the quality is noticeably reduced. It didn't cope well with harsh lighting even with HDR mode enabled. It does come to the fore in low-level lighting, with the front-facing flash useful and effective – clearly this is a phone camera designed for the club selfie, rather than the beach or the park. The G3's comfortable size and shape makes single-handed photo taking easy, and with the OIS in action and even a slightly



wobbly hand, the pictures taken are of a good quality. A lot of cameras clutter their screen with icons, even when the photo is being taken. We like the fact that LG removes all of these to a menu in the corner of the screen so your view isn't obstructed. It is a bit of a shame that you lose around half an inch from the top and bottom of the screen but we'd rather have it blacked out than have icons getting in the way. In terms of added features, the G3 is generous without pushing the boat out. There isn't anything particularly innovative in the editing options, with a crop tool, filters and the option to add different frames. The most interesting function would probably be the Magic Focus tool but it isn't anywhere near localised enough to make good pull focus shots. Overall this is a very good camera phone and if you enjoy snapping action shots, this is a great choice. You should probably look elsewhere if you want a top quality selfie camera or added extras to play around with though.

Pics in a flash

If you need to capture an image in a hurry, two clicks on the volume button takes a snap shot even with the lock screen on, meaning you can capture a photo straight out of your pocket

HDR setting

A popular feature in phones but rarely found in more budget models, HDR takes three photos at different exposures and melds them together, creating better low-light images and clearer pictures in harsh sunlight

Selfie box

It can be frustrating to take a photo and realise that you're looking nowhere near the lens. The Honor 6 combats this by having a small box to look at to show you right where the lens is

Super screen

With a screen size of 5 inches, a PPI depth of 441 and 16M colours, the photos you take are displayed brilliantly on the Honor 6's bright and colourful screen

Honor 6

Quality front and back cameras without the price tag

The Honor 6 sits with the mid-range models but still tries to mix it with the big boys when it comes to the camera. A 13MP rear camera and 5MP on the front is nearly twice what you would expect at this price point. The rear-facing camera is quick to focus and takes good quality photos, even at full zoom. It has a number of extra modes, with continuous shot providing a range of photo options and HDR mode brightening up dark pictures. We liked Audio Note, which allows you to add sound to a photo. This Snapchat-like element is a nice touch and is easy to use. The front-facing camera is a really good piece of kit, offering 5MP of sharpness, which is more than enough. The panorama mode is a superb idea, so if you're into group shots, this trumps any wide-angle selfie mode. We were a little disappointed, however, in the Beauty Face feature that didn't sharpen as intuitively as the other models. The All-Focus mode is impressive



though, allowing you to snap a picture and then change the point of focus afterwards. As with the rest of the camera's apps, it isn't difficult to use at all. Honor's manufacturer, Huawei, claims that you can snap a shot in 0.6 seconds by tapping the volume key twice, even when the screen is locked. We managed to get 0.7 seconds and the picture was still very clear despite blind shooting and a slightly shaky hand. Viewing the pictures on the 5-in, 1920 x 1080 resolution screen was an absolute joy, with the vibrant colours and high pixel count really bringing the photos to life. Huawei has somehow managed to pack an awful lot of excellent features into the Honor 6 for a pretty low price. Both the front and rear cameras produce good quality images, there is a decent number of editing options for both cameras and the quick shot function is superb. It is a little less sharp than its rivals and several modes don't quite stack up, but pound-for-pound, the Honor 6 is great value for money.

Group test

Honor 6 information

Price **£249.99/\$TBC**

More information www.hihonor.com

Supplied by Huawei

technical specs

- Operating system.....Android KitKat 4.4
- Processor.....1.3GHz octa-core
- Memory.....3GB RAM
- Dimensions.....139.6 x 69.7 x 7.5mm
- Weight.....130g
- Display size.....5-in
- Display resolution.....1920 x 1080
- Connectivity.....LTE CAT-6 300Mbps, NFC, dual-band Wi-Fi, Bluetooth 4.0
- Camera.....13MP rear, 5MP front

» head-to-head

Pixel count

The Honor 6 does have the lowest overall megapixel count of the four cameras, but it's level with the HTC on the back and comfortably beats the Samsung and Sony on the front, so it sits nicely in the middle

Ease-of-use

The Honor 6 is very basic and intuitive – ideal for a relative beginner. The extra features are laid out nicely so you'll never have to go hunting for a particular mode

Added features

Pretty standard in terms of extras. It comes loaded with panorama and filter modes. We are quite fond of the audio note mode which enables you to add vocal messages onto your photographs

Front-facing camera

The Honor 6 has the second-most powerful in the test. It has the added bonus of a panoramic mode on its front-facing camera, so you can take the widest group shot of any camera on the market

» Verdict

Excellent camera for quick snaps and composed shots. Not got the depth or finesse of the others, but is refreshingly simple, effective and much better than its mid-range competitors



The Winner... Samsung K Zoom

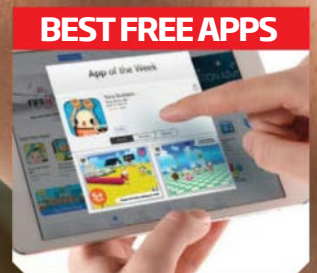
It probably doesn't come as much of a shock, but the phone that is basically a camera with a phone attached is our pick for best camera phone. The HTC Desire Eye has done a good job with its powerful front-facing camera and it does pick out a lot of background details, but for overall quality of phone and camera, the Samsung reigned supreme. Its front-facing offering did an admirable job, while the rear one is just fantastic. If you are a regular at festivals or sporting events, this will take photos your friends will be incredibly envious of with its razor-sharp 10x optical zoom. The LG G3 is one of our favourite phones, but when focusing just on its camera features, the handset falls short. The rear-facing camera is clear, quick to focus and sharp, but the front-facing one is disappointing. The Samsung beats it on pretty much all fronts, although if we were talking about the phone as a whole, the LG would have it beaten. The Honor 6 was the surprise package of the four, keeping up with its rivals despite the price difference. Both cameras were effective and easy-to-use but it was just lacking a bit of finesse and clarity. If you are a keen phone photo taker but don't want to shell out the mega bucks for a flagship model, the K Zoom will take care of all your basic needs while delivering a truly first rate camera experience.



	Samsung Galaxy K Zoom	HTC Desire Eye	LG G3	Honor 6
OS	Android KitKat 4.4.2	Android KitKat 4.4.2	Android KitKat 4.4	Android KitKat 4.4
Processor	Exynos5 Hexa-Core 1.7GHz	2.3GHz Quad-core Qualcomm Snapdragon 801	2.5GHz Quad-core Qualcomm Snapdragon 801	1.3GHz octa-core
Memory	2GB RAM	16GB RAM	2GB RAM 16GB storage	3GB RAM
Dimensions	137.5 x 70.8 x 20.2mm	151.7 x 73.8 x 8.5mm	146.3 x 74.6 x 8.9mm	139.6 x 69.7 x 7.5mm
Weight	200g	154g	140g	130g
Display Size	4.8-in	5.2-in	5.5-in	5-in
Display Resolution	720 x 1280	1920 x 1080	2560 x 1440	1920 x 1080
Connectivity	4G, Wifi, Bluetooth 4.0	4G, Wifi, Bluetooth 4.0	4G, Wi-Fi, Bluetooth 4.0	LTE CAT-6 300Mbps, NFC, dual-band Wi-Fi, Bluetooth 4.0
Camera	20.7MP rear, 2.0MP front	13MP rear, 13MP front	13MP rear, 2.1MP front	13MP rear, 5MP front
Overall score	★★★★★	★★★★☆	★★★★☆	★★★★☆

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HTC Desire 820

HTC updates its mid-range Desire phablet with a 64-bit processor and a refined design language

When we reviewed the HTC Desire 816 back in issue 40, we concluded that it represented a return to form for HTC's mid-range line-up. Not long has passed yet here HTC are with the successor, the Desire 820. The old adage 'if it ain't broke don't fix it' certainly applies in the world of mobile phones and HTC have taken this approach with the 820 – it takes the best aspects of the 816 and builds on them.

The basic formula is the same – a 5.5" 720P screen, Qualcomm processor, more RAM, plastic body, LTE data, expandable memory and a high spec front facing camera. As you'd expect though, many of the specifications have received a slight upgrade.

When we reviewed the 816, we were surprised how good the screen looked, given its 720P resolution at a 5.5" size. Impressively, the display on the Desire 820 looks even better! It's brighter and sharper, again showing that as long as the display is high quality, resolution isn't everything. The processor in the device is one of the most significant upgrades – gone is the low end (but impressive) Snapdragon 400, replaced instead by an Octa-core big.LITTLE 64-bit Snapdragon 615. With 4 cores at 1.5GHz and 4 cores at 1GHz, the CPU is powerful but has the ability to be extremely power efficient when doing non-intensive tasks. Although Android KitKat doesn't take advantage of 64-bit processors, Android 5.0 Lollipop does, and HTC have pledged to update the Desire 820.

The Desire 820 is HTC's first device to use the 'doubleshot' moulding method, proudly demonstrated on-screen in HTC's press conference. The approach allows for two-tone styles on the device without compromising build quality. It is a very well made phone indeed, matching the best polycarbonate devices from even the likes of Nokia.

As 4G availability in the UK gradually increases, some networks are already starting to roll out speed upgrades. The first of these is LTE-A CAT4 which provides for speeds of up to 150Mbps. With its cutting edge processor and modem, the Desire 820 supports this technology, so as it comes online you will be more than ready to take advantage. Also a big improvement over its predecessor is the inclusion of dual band Wi-Fi. The reception, as you'd expect, is excellent,

Snap happy

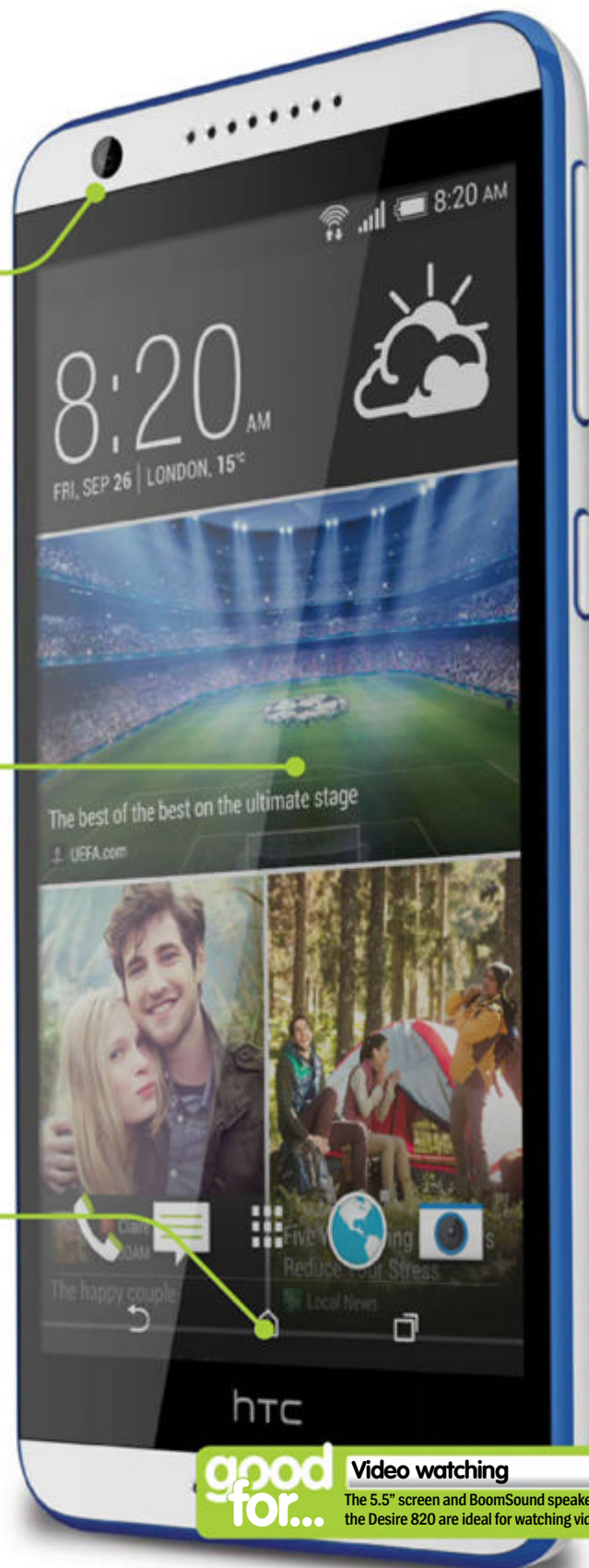
The Desire 820 has an 8MP front-facing camera for even better selfies, with innovative software features including a photo booth mode, live makeup and a slightly disturbing face merging feature to creep out you and your friends

Fast processor

The Desire 820 is one of the first devices to use the Snapdragon 615 processor. The 64-bit, octa-core chip has 4 1.5GHz ARM Cortex A53 cores and 4 1.0GHz A53 cores for great power efficiency

Storage boost

The internal storage on the Desire 820 has doubled compared to its Desire 816 predecessor, giving you 16GB on board in addition to microSD expansion. The slot supports microSDXC, which enables you to use cards up to 128GB in size



good
for...

Video watching

The 5.5" screen and BoomSound speakers on the Desire 820 are ideal for watching videos.

something which is a definite benefit of any plastic bodied phones.

If there is any doubt as to the target market for this device, then the 8 megapixel front-facing camera should quickly resolve it. Second only to HTC dedicated selfie phone, the Desire Eye, with its 13 megapixel camera and front-facing flash, the 8 megapixel lens on the front of the Desire 820 takes some of the finest self-portraits of any phone, with clever software features to impress your friends. For the less concieted, the 13MP rear camera takes decent pictures too.

So what's not to like about the Desire 820? It's big, really big, courtesy of that huge screen and the BoomSound speakers. As phones in general get larger though, it somehow feels

manageable, as long as you forget any ideas of using it one handed. The new plastics on the phone are very nice but the glossy back has some downsides. It's a little bit slippery in the hand, susceptible to fingerprints and we worry it will show scratches easily. When it's clean and new though, it looks fantastic.

In some markets the Desire 820 is available with dual SIM slots (as seen on the Moto G 2nd Generation), but in the UK it's likely that the single version SIM will be offered. Provided HTC can get a wide distribution of the device in the UK, they could really have a hit on their hands. There is a voracious appetite for larger devices in the market and the mid-range price point is very underserved in that regard.

Two-tone

The Desire 820 is constructed using HTC's new 'doubleshot' process, which creates a two-tone colour unibody that is extremely strong. This also features on the new HTC Desire Eye. The device has a glossy finish which is available in a number of different colours

Bold speakers

BoomSound – HTC's brand name for its dual front-facing stereo speakers – is present and as impressive as ever. Their inclusion does make for larger bezels top and bottom, but we think that it's a worthy trade-off, particularly for gaming and movies

Dot View case

The HTC had fantastic success with the Dot View case on the One (M8) and it's now available for most HTC devices, including the Desire 820. It provides excellent protection while cleverly still enabling notifications to be viewed through the holes on the front



Review

HTC Desire 820 information

Price TBC

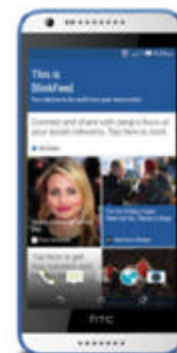
» More information htc.co.uk

» Supplied by HTC

Battery life



The 2600mAh battery is smaller than other phablets, so expect good but not especially



technical specs

» Operating system.....	Android 4.4.2 KitKat
» Processor.....	Qualcomm Snapdragon 615 Octa-core
» Memory.....	16GB ROM / 2GB RAM
» Dimensions.....	157.7 x 78.74 x 7.74mm
» Weight.....	155g
» Display size.....	5.5 inch
» Display resolution.....	1280x720 pixels
» Connectivity.....	LTE-A 150Mbps
» Expansion slot.....	microSD



Performance

The mid-range Snapdragon 615 chip looks like a winner. Consistently fast in use

Design

HTC's new design language is maturing well, but glossy plastics are fingerprint magnets

Features

The Desire 820 offers more of everything – more RAM, more storage, more megapixels

Value for money

At a mid-range price point the Desire 820 could seriously worry much more expensive devices on the market

» Verdict

HTC haven't rested on their laurels following the Desire 816. Now it just needs a wider European release



Speedy transfers

The 820 supports 150Mbps LTE-A for fast transfers. Vodafone and EE are supporting too.

Future-proofing

HTC confirmed the Desire 820 will be updated to Lollipop, so it's a good buy for the future.

Bigger memory

The 2GB memory, means that applications are less likely to be shut down.

Honor 3C

Huawei's follow up to the well received Honor 6 is the new, low cost, 3C. Does cheaper still remain desirable?

Praise was heaped on Huawei's campaign to win over the West, the Honor 6. Low- and mid-range phones in particular are a delicate balancing act between cost, features and design flair and the Honor 6 got it virtually spot on. On the back of this success Honor, a Huawei sub-brand, have launched the 3C at less than half the price of its sibling. Strangely, the £100-£150 price bracket is becoming a very competitive space in the Android market, with no less than three versions of the Moto G available and a growing number of budget devices from the heavyweights of Samsung, Sony, LG and HTC. It seems companies have realised that the real profits are to be made not from the flagship devices, but from the mass market. Flagships are still important for their 'halo effect' but they have to be complemented by a solid mid-range lineup.

No review of a phone in this lower tier of Android can be complete without comparing the device to the Motorola Moto G, which is the undisputed king of this segment. So how does the Honor 3C measure up to its competitors?

Holding the Honor 3C in your hand, the family resemblance to the Honor 6 is sadly undetectable and some of the inevitable cost-saving measures are immediately obvious. The device feels cheaper by virtue of its plastic back and its oversized buttons feel old-fashioned. Thankfully, things improve when you turn the device on – the 5-inch 720P LTPS screen really is excellent.

The phone runs Android 4.2 Jelly Bean with a skin called Emotion UI 2.0 that can be found on a whole host of Huawei devices and as before, its somewhat polarising – feeling like a hybrid of iOS of yesteryear with Android. At least it can be largely disabled by installing a custom launcher and the stock Google apps. Huawei upgrade track record gives cause for concern. It is borderline unacceptable for a device to be shipping in 2015 running such an old version of Android and we don't hold out much hope for an update. Custom ROMs might be the best chance for an upgrade to the latest Android OS but as a fairly niche device, developer support is far from guaranteed.

Performance of the Honor 3C is acceptable and while the Mediatek processor isn't exactly cutting edge, its inadequacies are well disguised by the generous 2GB RAM, provided you don't try and tax it too much graphically with demanding games. The 8GB internal storage fills quickly (only 6GB is actually available for use on a box fresh device), but it is expandable using a microSD card up to 64GB in size.

The 8 megapixel rear-facing camera on the

Bold display

The Honor 3C has a 5" 720P display. It's a LTPS panel, which means it's bright, sharp and has good colour reproduction. The phone has a 69% screen to body ratio which is reasonable for its class, particularly with capacitive buttons

Dual sim

One of the Honor 3C's key rivals is the 2nd Generation Moto G, which features dual SIM slots. The 3C does too, accepting a pair of microSIM cards, one to run in 3G and the other in 2G mode

Upgrade?

The Honor 3C includes Emotion UI 2.0 on top of Android 4.2 Jelly Bean. Unfortunately, both of these versions lag behind the latest releases (3.0 and 5.0 respectively) with no indication when or if an upgrade will become available



good
for...

Dual access

If you have a work and a personal phone or travel a lot, the dual SIM is useful to have.

Honor 3C information

Price From **£109.99**

» More information
www.hihonor.com

» Supplied by
Huawei

Battery life



The 2300mAh battery will give a full day of normal use, but drains faster in dual SIM mode



technical specs

- » Operating system..... **Android 4.2**
- » Processor..... **Mediatek MTK6582 1.3GHz Quad Core**
- » Memory..... **8GB / 2GB**
- » Dimensions..... **139.5 x 71.4 x 9.2 mm**
- » Weight..... **140g**
- » Display size..... **5.0-inch**
- » Display resolution..... **1,280 x 720 pixels**
- » Connectivity..... **3G / 21 Mbps**
- » Expansion slot..... **microSD**



Performance

The Honor 3C is an adequate performer, thanks largely to the generous 2GB RAM

Design

While the Honor 6 has a striking design, the 3C is largely anonymous but inoffensive

Features

The biggest omission is LTE connectivity, which now appears in low cost devices

Value for money

At barely over £100, the Honor 3C is amongst the cheapest Android devices

» Verdict

The Honor 3C is a good device overall, but the software build and weak camera disappoint



Selfie or portrait

A 5 Megapixel camera can be found on the front of the Honor 3C to complement the 8 Megapixel unit on the rear. Optimised for selfies, the front facing camera includes a 'beauty mode' for live image touch-ups which could prove useful

phone can take reasonable pictures in good lighting conditions, but struggles particularly in low light. However, the 5 megapixel front-facing camera fares better. Although it too works best in bright conditions – most of us don't want to take selfies in the dark anyway! With many of it's nearest rivals offering cameras of 2 megapixels at best, the Honor 3C is a good tool for the more snap happy amongst us. The Honor camera app is also fully featured, with a host of options including a beauty shot mode

Expandable storage

The Honor 3C includes 8GB storage, however, this is expandable via microSD. The battery is also removable, which is becoming increasingly rare on devices today. 2GB RAM is a highlight with 1GB being more common at this price point

which delicately air brushes out any imperfections that are present!

The situation with the cameras very much sums up the Honor 3C – while it's not going to be the perfect phone for everyone, providing you don't plan to do anything too taxing and you don't expect too much from the main camera, then you will likely be happy with your bargain purchase. The only problem? The second generation Moto G is superior to the Honor 3C in almost every regard.

Easy to use

The device is glass fronted with a removable plastic back. The volume and power buttons are on the side of the device for easy access, the headphone port is on the top and the microUSB socket is offset on the bottom of the device

which delicately air brushes out any imperfections that are present!

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Watching Videos

The impressive 5", 294 pixels per inch screen, makes it great for watching videos.

Cool cases

5 different colour cases are available from Honor, with more available from third parties.

Long battery life

The 2300mAh battery is large and swappable – ideal for long days.

Acer Chromebook 13

How does Acer's latest Chromebook offering stack up?



Google Now cards

The menu on the right brings up a selection of your Google Now cards, giving you instant access to information about sports, traffic, weather and many more things you are interested in. It also lists actions such as screenshots

Saved pages

You don't have to worry about losing all your favourite pages when switching laptops. Logging into your Google account brings up your most visited pages list from your previous laptop, so you don't have to go about building them up again

Preloaded programs

The full suite of Google programs is preloaded on your menu, so you can access all aspects of the Play store and Google Office programs with just one click. It also offers offline modes for certain programs as well

Surprise, Surprise

One fun option in the settings is the 'Surprise Me' desktop, which randomly chooses a new desktop background every time you open your computer. There is a decent set of stock wallpapers as well as the option to load your own

The main selling points of Chromebooks are that they're light, cheap and do the basics well. In this regard, Acer's follow up to its popular C720 Chromebook is fairly successful. At 1.5kg it is marginally on the heavy side for a Chromebook, but very light compared to most laptops. Design-wise it isn't going to win any awards but it has a simple, clean appeal and it certainly isn't something you will be embarrassed to use in public. However, it does feel a bit cheap and plasticky and we'd have liked the edges to be slightly more rounded. Its price is slap bang in the

middle of the Chromebook market at £219. For that, you get a 2.1Ghz quad-core NVIDIA Tegra K1 processor, 13.3-in 1920 x 1080 HD screen and 100GB of Google Drive storage.

The processor performed all the tasks we set it, as long as we didn't try having too many things going at once. Games played smoothly and looked great on the sharp screen, although it was lacking the richness of colour that we'd hoped for. If you are a gamer we probably wouldn't recommend using this model as the processor will struggle to run high-end games. However, for games such as

Angry Birds, it managed just fine. Video playback was excellent and, although the screen gets noticeably darker around the edges as your viewing angle widens, three people could comfortably watch a film without much loss of vision.

This model runs the latest version of Chrome and comes loaded with its familiar suite of Google

good
for...

Portability

At just 1.5kg, you can easily carry the Chromebook around or have it on your lap.

Play programs where everything is contained in a small, pop up menu in the bottom-left corner. That makes for a clean desktop and a menu set-up that is a lot more user friendly than Windows 8. Beyond the shortcuts to Google applications there are not a lot of programs installed, which does make sense as bloatware would seriously eat into the Chromebook's limited memory.

Its built-in webcam is capable of taking 1280x720 resolution photos. The image it produces is a bit pixelated, but on the whole it's a good camera and would definitely suffice for Facebook pictures. There is also a wide range of filters if you want to play around and edit your pictures. The Chromebook is nice and fast, with a quick boot-up time and loads webpages, files and emails in a matter of seconds – another bonus due to the lack of bloatware. One of its big selling points is its long-life battery. It is claimed that it lasts 11 hours and although our tests showed it to be a couple of hours less than that, it's still very impressive. Around the edges you've got two USB ports, a HDMI port, headphone jack and AC adaptor point, all

spaced out around the back and the rear of the machine's sides, so from the front it looks very clean and smooth. The keyboard keys are nicely spaced out, so there is little chance of you accidentally mistyping and they are very responsive. The touchpad is nice to use too as it's a good size and reacts instantly to scrolling and clicking.

Overall there is little to criticise in the Acer Chromebook 13. It looks good, its fast and the screen is sharp. We would like the screen's colour to be a little brighter and the camera could be a bit sharper, but generally it's a very good machine. Obviously the issue with all Chromebooks is their memory capacity and limited processors, but unless you are trying to perform a lot of memory heavy tasks or play involving games, you should be fine with the Acer. Streaming videos, playing simple games and creating documents will all be easily achieved by the Acer's brand new processor, which is impressively fast. Its specs might not quite stand up to the likes of the Toshiba Chromebook or the Samsung Chromebook 2, but for the price this is definitely worth considering over its competitors.



Synced apps

Android phones running Lollipop are able to sync up with the Chromebook. Notifications and apps that are running on your phone are instantly loaded onto your Chromebook, so you don't have to keep checking your phone when you're using it

Auto-Bluetooth

The Chromebook is Bluetooth enabled automatically so you can easily transfer files and photos from your smartphone or tablet to the laptop, even if you are in an area without wifi. However, it can be disabled with one click

Speedy boot

The Chromebook is rapid when booting up, taking 20 seconds from opening to desktop.

Great viewing

Watching movies. The 1920 x 1080 HD screen delivers superb clarity when watching films.

Enjoying peace

The Chromebook runs pretty much silently, making it perfect for watching TV and movies.

Review

Acer Chromebook 13 information

Price From **£219/\$249**

» More information www.acer.co.uk

» Supplied by **Acer**

Battery life

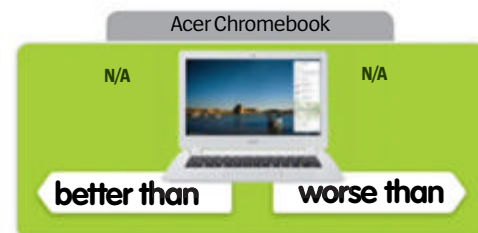


3220mAh battery provides 11.5 hours use in energy saving mode. Closer to 10 in standard mode



technical specs

» Operating system.....	Chrome OS
» Processor.....	2.1Ghz quad-core NVIDIA Tegra K1
» Memory.....	2GB
» Dimensions.....	327 x 227.5 x 18mm
» Weight.....	1.5kg
» Display size.....	13.3 inch
» Display resolution.....	1366x768 pixels
» Connectivity.....	Wi-Fi, Bluetooth
» Expansion slot.....	SD card



Performance

Struggles with memory-sapping tasks, but day-to-day games and loading times are really very good

Design

Looks good when closed and keyboard is well laid out but feels a little bit cheap

Features

Not much to say here. Decent camera and the standard ports but little else

Value for money

You get an awful lot of quality for not much money with the Acer

» Verdict

Unless you need a lot of memory, the Acer is speedy and has a great screen and long battery life



Asus ZenWatch information

Price **£199.99**

» More information www.asus.com
» Supplied by www.asus.com

Battery life



Expect around 13 hours of life from the 369mAh battery before you need to charge



technical specs

- » Operating system.....**Android Wear**
- » Processor.....**1.2GHz dual-core Snapdragon 400**
- » Memory.....**4GB flash, 512MB RAM**
- » Dimensions.....**51 x 39.9 x 7.9mm**
- » Weight.....**75g**
- » Display size.....**1.63 inch**
- » Display resolution.....**320x320 pixels**
- » Connectivity.....**Bluetooth**
- » Expansion slot.....**N/A**



Performance

It's a pleasure to use the ZenWatch thanks to the 1.2GHz dual-core processor

Design

The chunky build might be a put off, but it gives the ZenWatch a more premium finish

Features

The best smartwatch to utilise Wear yet. Adding your own watch strap is a nice touch

Value for money

The ZenWatch is competitively priced when compared to other smartwatches for sale

» Verdict

We're still dubious about the battery life, but the Asus ZenWatch is still the best smartwatch on the market



Adjustable strap

If the leather strap isn't for you, then you can swap it out with any standard watch strap thanks to the hinges on the ZenWatch. We recommend going for a metal strap to give it a nice premium finish

Chunky design

With the two layers of metal encasing the capacitive screen, the watch face does look and feel chunky. If you've got small wrists it's surprisingly noticeable how big the ZenWatch is

Works with Wear

This is without doubt the best Android Wear smartwatch you can currently buy. The screen size is ideal for getting the most out of Wear and third-party apps work really well too

Fast response

Thanks to the power of a dual-core processor moving around, the ZenWatch feels snappy and responsive. The only lag we noticed was when we initially setup the smartwatch

Asus ZenWatch

With a premium design and a slick processor, can the ZenWatch prove we should care about Android Wear?

Android Wear is not even a year old, but there are already second generation of smartwatches on the market. Following on from plastic prototypes like the LG G Watch and Samsung Gear Live, the new breed have a more premium feel. However, while the likes of the Moto 360 and the G Watch R have stolen the headlines, the Asus ZenWatch has largely flown under the radar - but this could be an advantage.

Some complain square screens on smartwatches are ugly, while others say circular screens are impractical. The ZenWatch is predominantly square, but has pleasantly round edges that make it look like a luxury timepiece. We'd go as far saying it's the first smartwatch that we actually felt comfortable wearing. The metallic build is chunky and has a notably weight, but it helps cut a svelte figure when on the wrist and looks arguably better than the Moto 360.

Currently, all Android Wear watches have similar specs. The ZenWatch has familiar dual-core 1.2GHz processor, with 512MB of RAM to keep things ticking nicely. It has the added benefit of 4GB of internal storage, but using a significant amount of it does cause some noticeable slowdown.

Benefiting from several system updates, the interface is much superior to our earlier tests with the G Watch. Everything from setting the watch up to managing apps works flawlessly, but some will still crave a slightly bigger screen. Although it's more of an annoyance than anything else, the metallic back can get quite warm sometimes. This depends on how often you use the smartwatch, which - given the nature of the device - should be really the less than five minutes at a time.

However, having a powered-up processor and the best integration of Android Wear to date does come with certain downfalls. Battery life takes a massive hit and while the accompanying wireless charging plate works really well, we got just under 14 hours of life from the 369mAh battery. For any smartwatch to be truly successful, it really needs to last a whole day without needing a charge.

It's clear that Asus has learnt from the past mistakes of its competitors when it comes to the ZenWatch. Although it's a little chunky and still lacks the battery life we want, it's by far and away the best smartwatch out there right now. If you're interested in investing in Android Wear, this is the smartwatch of choice.



Strong screen

The screen on the XP7 Extreme is a relatively low resolution (by today's standards) at 800x480 WVGA unit, but it does have excellent outdoor visibility, it is usable with gloves and of course, it is very hard to break!

Clear speaker

Sonim realise that the XP7 Extreme is likely to be used in noisy environments and with that in mind, it has an extremely loud 103dB speaker. This is complemented by a very bright notification LED, built into the 'antenna stub'

Cover yourself

It's all very well having a device that makes fantastic claims about its durability, but the XP7 Extreme also backs it up with a 3 Year comprehensive warranty that includes accidental breakage cover. You can use the device with confidence

Drop resistant

The XP7 Extreme is resistant to drops onto concrete from 6.5 feet, from any angle and IP 68/IP 69 certified for full submersion in water 6.5 feet deep for up to 30 minutes. You can even pressure wash it!

Sonim XP7 Extreme

What if you need you need phone that's not just waterproof or even drop-proof, but virtually indestructible? Sonim has you covered

The Sonim XP7 Extreme is not a conventional phone. The first clue is in the name – never has the word 'Extreme' been used more appropriately. Aside from the device itself, its conception has also been a little unorthodox compared to its competitors – its development and release has been funded by a successful crowdfunding campaign on indiegogo, which quickly exceeded its \$150,000 funding target.

The XP7 Extreme has a 1.2GHz Qualcomm Snapdragon 410 processor at its heart, with 1GB RAM and 16GB (non-expandable) storage. This is a popular mid-tier configuration at the moment but on the Sonim it works particularly well. The Snapdragon 410 CPU is very frugal when it comes to battery consumption and with the relatively low-resolution WVGA screen on the device, it is more than powerful enough to provide a consistently smooth experience.

Connectivity is a particular highlight on the phone. As well as LTE support, the XP7 Extreme includes dual-band Wi-Fi, Bluetooth 4.0 and NFC. Signal strength is very impressive, which is useful if you will be using the device in more remote locations where signal is hard to come by.

If you buy a Sonim XP7 Extreme, it's important to be aware that this is a big phone. A really big phone, thanks to its huge 4800mAh battery. It's a tool that is not likely to be for everyday use but

rather it'll sit in your kit bag ready for when you go out to do extreme sports or work in challenging conditions. The IP68/IP 69 protection rating against water and micro-particles, resistance to shocks of up to 30G and vibrations from 5Hz to 500Hz, 6.5 feet drop and impact resistance, an operating temperature range from -4 to 55 degrees celsius, the ability to withstand a ton of metric pressure or 4J of impact (puncture resistance) on the case (2J on the screen) and resistance to oils and chemicals, means it's going to be pretty hard to damage or destroy the device. But if you do, a three year warranty is included which covers accidental damage. You get a lot of peace of mind for your money with this phone.

However, this is **Android Magazine** and a very important part of the XP7 Extreme is how well it actually functions as an Android device. Thankfully there are no disappointments there. The software build is relatively stock with only a few useful tweaks and additions and with the full complement of Google apps, when you're using the device it feels just like any other Android handset, except you can throw it around just for fun!

Other Android devices are available which offer a degree of ruggedness and may be easier to live with day to day, but if you want ultimate protection with insane battery life, then the Sonim XP7 Extreme is the only choice.

Review

Sonim XP7 Extreme information

Price **\$579**

» More information www.indiegogo.com

» Supplied by **Sonim**

Battery life



The XP7 Extreme's 4800mAh battery is truly epic, outlasting anything else we've ever tested



technical specs

» Operating system.....	Android 4.4 KitKat
» Processor.....	Snapdragon 410 1.2GHz
» Memory.....	16GB storage / 1GB RAM
» Dimensions.....	137mm x 72.1mm x 20.8mm
» Weight.....	290g
» Display size.....	4-inch
» Display resolution.....	800x480 pixels
» Connectivity.....	4G
» Expansion slot.....	N/A



Performance

The Snapdragon 410 processor is more than capable of driving the WVGA screen

Design

The XP7 Extreme is about functional design, but it gives confidence and does its job well

Features

It has all the features that matter, but there are a few extra things that could be useful

Value for money

The XP7 is very competitively priced against similar specialist tools

» Verdict

If you need a phone that can withstand virtually anything, then the Sonim XP7 is the tool for the job



Vodafone Smart 4 Power information

Price **£100**

» More information Vodafone.co.uk
» Supplied by **Vodafone**

Battery life



The 3000mAh cell provided over a day and a half charge of average use, including music streaming



technical specs

- » Operating system.....**Android 4.4 KitKat**
- » Processor.....**1.3GHz quad-core MTK 6582 M, MTK 6290**
- » Memory.....**4GB storage, 1GB RAM**
- » Dimensions.....**141 x 71.4 x 9.5 mm**
- » Weight.....**162g**
- » Display size.....**5.0-inch**
- » Display resolution.....**540 x 960 pixels**
- » Connectivity.....**4G/ Bluetooth 4.0/ FM Radio**
- » Expansion slot.....**microSD, up to 32GB**

Vodafone Smart 4 Power



Performance

A quad processor and 1GB RAM, ensure that the handset can keep up with daily use

Design

Available as either a black or white oblong, the overall design is rather boring

Features

Includes next to no stand-out features, except Vodafone's own range of apps

Value for money

It couldn't be much cheaper, while Vodafone offer some competitive contract deals

» Verdict

A competent phablet that struggles to distinguish itself, with disappointing screen clarity but good 4G speeds

Special offers

Pick up the Smart 4 Power for as little as a £14 per month contract. To feel the benefit of that LTE speed, from £27 per month Vodafone also includes 6 month free subscription to Spotify, NowTV or Sky Sports Mobile TV

Limited memory

It's a good thing that you can stream all those box sets and playlists, as you would struggle to store them here. While it's advertised as having 4GB, after system requirements, there's just 1.8GB storage to play with. However, it does support a 32GB microSD

Quad-core processor

The Smart 4 Power lives up to its name with a 1.3GHz quad-core processor. While it's no Snapdragon 810, it kept up with all our day-to-day phone usage, as well as playing games with heavy graphics

Lightning-fast photos

Image quality for the 5MP rear camera is as expected for this price point: far from crisp, but vivid. The front-facing VGA camera is worse. However, both cameras are quick, with barely a pause from tapping the screen to taking the picture



Vodafone Smart 4 Power

Can Vodafone persuade you to switch networks with this 4G phablet?

More and more carriers are offering own-brand budget phones. EE launched the Kestrel phone last year, while Vodafone has been pushing its Smart range, from the 4-inch 3G Smart 4 mini through to the Smart Tab 4G tablet. The Smart 4 Power sits in the middle, marketed as Vodafone's own mobile entertainment system. Coupling 4G connectivity with a 5-inch quad HD touchscreen, on paper this phablet offers the speed and display size needed to enjoy music and video streaming on the go. However, the reality is not quite as impressive.

Firstly, it's a bit dull to look at. Available in black or white, the Smart 4 Power is completely anonymous – it just looks any other handset. With a thick bezel and hefty 162g weight, the phone feels a bit awkward being used one-handed and sat in your pocket. However, it also boasts a large 3,500mAh battery that gave us a day and half use, so we'll forgive its added chunkiness.

That all-important display is bright and colourful with high contrast and we didn't experience any problems using it in direct sunlight. The 5-inch screen is a good size for viewing videos and is notably bigger than its rival the EE Kestrel or budget 4G market leader, the Moto G 4G. However, the display has a resolution of 540 x 960 pixels, which works out as a

disappointing 220 pixels per inch. The end result is a slightly blurry images, which is far from ideal. This is actually the same resolution as the Kestrel, but due to the screen's smaller size, EE's phone has a crisper image. The Smart 4 Power's viewing angles are also narrow, so despite the extra screen size, you'll struggle to watch videos on it with other people, unless they're prepared to snuggle up close.

In terms of LTE connectivity, the Smart 4 Power fairs better. It offers CAT4 4G, which works out at 150mps downloads and 50mps uploads, while the CAT3 Moto G 4G only offers 100mps uploads. However, as the Smart 4 Power is exclusive to Vodafone, you're limited to the company's own 4G coverage. Looking at OpenSignal data, this is stronger than EE or any other UK carrier's coverage in the south-east of England, but unfortunately is quite patchy across the rest of the country.

It also runs stock Android KitKat, one up on the Kestrel's Jellybean, with a few Vodafone apps thrown in. Disappointingly, these apps add very little, but use up a lot of the tiny 4GB memory.

All in all, the Vodafone Smart 4 Power offers a better budget phone than most – better than the Kestrel – but still leaves a lot to be desired. If you're already on Vodafone and are looking for an affordable phone then it's worth considering, but the Smart 4 Power is not worth switching carriers for.



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Super speakers

The best portable Bluetooth speakers are put to the test

Pure Voca

■ Price £99.99/ \$179
■ More information www.pure.com

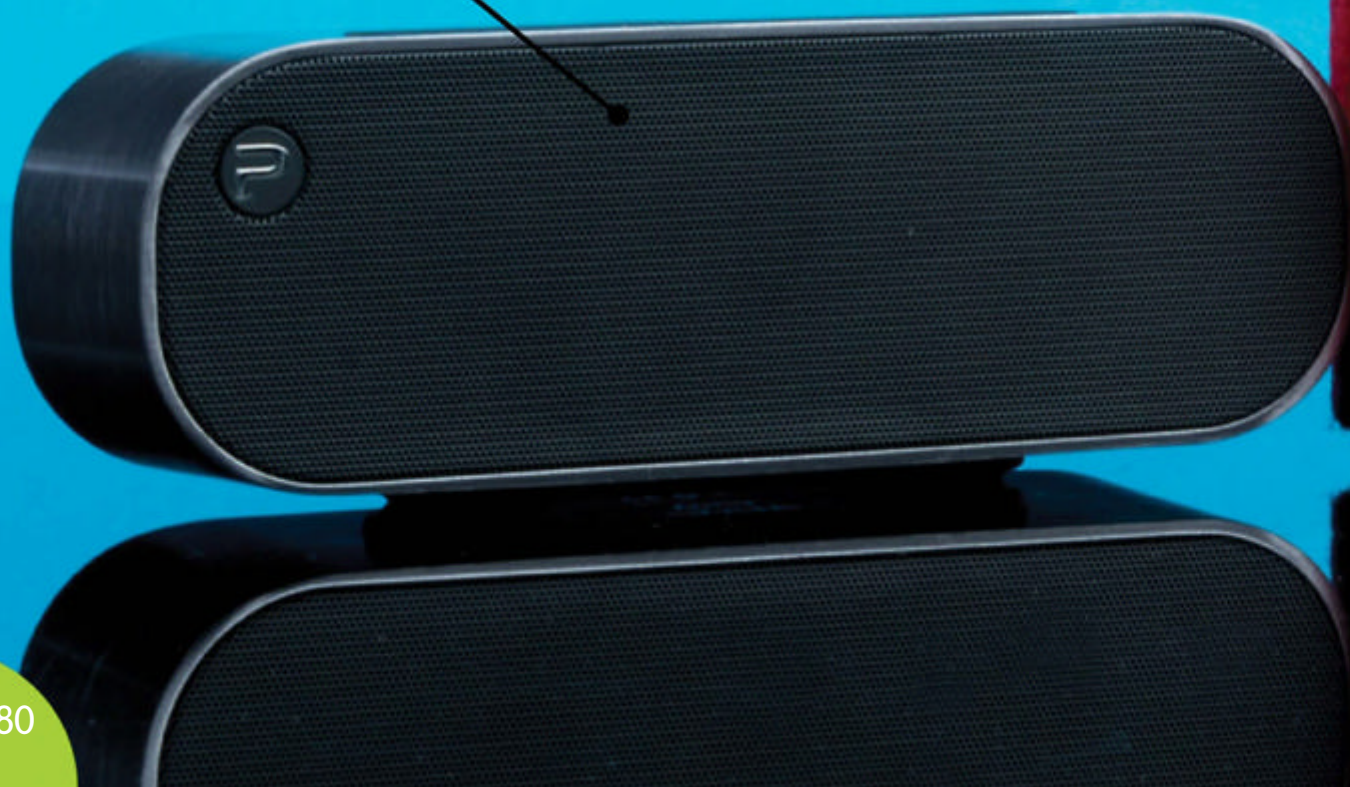
This Bluetooth speaker from Pure does everything you'd want from a speaker and more. It delivers crystal clear audio at all volumes and pitches, with a strong vibration on the bass demonstrating its power. It's really quick and simple to pair up and the controls are easily accessible and understood. The Bluetooth call system is fantastic as well, with the receiver still able to hear us from over six feet away. An excellent device at a very reasonable cost.



Libratone Zipp

■ Price £299.95/ \$299.95
■ More information www.libratone.com

If you want your speakers to not actually look like speakers, you may be interested in the Libratone Zipp. It comes in your choice of coloured Italian wool cloth to disguise the metal grills and plastic coating. Audio quality is superb and provides a rich, 360 degree sound. The Bluetooth technology pairs up instantly and you can get four hours wireless playback. It's pretty big for a supposedly portable speaker and sounds sublime, but is a lot pricier than the other models.



Denon Envaya Mini

Price £99/ \$149

More information www.denon.co.uk

Denon has taken a bit of a risk by producing a small, budget version of its popular Envaya speaker, but has succeeded in miniaturising the technology without compromising on quality. It uses Apt-x technology to stream at such speeds you barely notice any lag if using it as a booster while watching something on your laptop or tablet. Its low end is superb as well and it looks great. Denon's experiment with a low cost device has been a rousing success.



Jabra Solemate

Price £129.99/ \$149.99

More information www.jabra.co.uk

Jabra talks the talk but unfortunately the Solemate doesn't walk the walk. We were promised a speaker with a powerful bass and soaring highs but it didn't deliver on either. Both were good but nothing spectacular. It also didn't come with a wall charger, which is an oversight. We're also a little unsure about the styling. It's meant to resemble a shoe, hence the sole pun, but it just doesn't look like something you'd want in your home.



BillGuard

The easy way to check your balance



Before the rise of internet banking and comparison sites, most people stuck all their money in one bank and left it there. However, people are much more savvy when it comes to money these days and it's easier than ever to search for the best deals. The upside of this is that people are getting more bang for their buck, but the downside is the sheer number of accounts to keep track of. If you have a savings account with one bank, an ISA with another and your main current account with a third, it can be very difficult to keep track of where all your money is going into and coming out of. Most high street banks now have apps but it can be a hassle to switch between them when trying to work out your finances. This is where the stylishly-

designed BillGuard app comes in. Connecting your accounts with the app only takes a couple of steps each and then you're good to go. Each account's outgoings are split up into an easily understood wheel, which tracks how much you have spent on rent, eating out or shopping. This can be really helpful in working out which areas you need to scale back if you're needing to save for something. BillGuard also allows you to set up spending goals and budgeting targets. Having all your accounts in one place and being able to see the wheel of spending makes the process of sticking to a budget much easier because it's much harder to hide your spending from yourself when there's only one app to log into! The app will also alert you if it thinks any strange payments have been made. This way you can see

what potential suspicious activity is going on with your card, without having to wait till the end of the month when your statement comes through. If you're worried about safety, you needn't be. The app is encrypted with bank app-level security, password protected and the added ID protection is provided by Experian, one of the world leaders in credit dealings. Also no money gets moved with BillGuard. It is merely a tool to show you where and when money is moving, meaning that if anyone steals your phone and gains access to the app, they will only be able to see your outgoings and can't transfer your life savings into their account. It will let you report suspicious activity to your bank if there is an unexpected charge, kick-starting a process that would otherwise require you to go

2 hour wonder

Want your money back? You've got 2 hours to decide!



» **0-40 minutes**
Simple set up is a good start

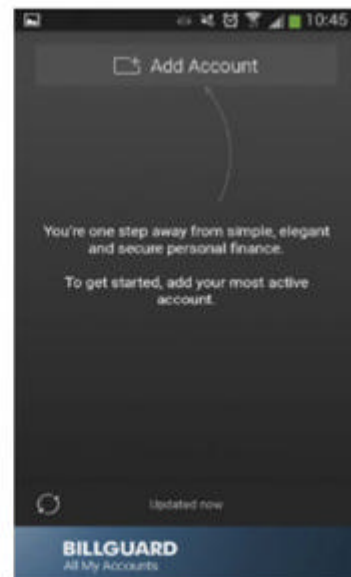


» **40-80 minutes**
Realise food spending is a little too high



» **80-120 minutes** Budget plan to eat less is in place

keep refund



BillGuard makes it easy to manage your money on both your phone or tablet

into the bank or deal with the minefield of a helpline. BillGuard is a really accessible app, providing an important service in a way that is very easy to understand. The budgeting side of it is also easy to set up and stick to, thanks to the large spending wheel in the middle. Switching between accounts is much easier than opening and closing multiple banking apps and makes you much more likely to take control of your finances.

» specification

Price Free

Designed for Phone and tablet
Requires Android 4.0

» verdict

Performance

Design

Value

Well designed, useful and free. Everything that banking should be



Add as many accounts as you want to keep track of

» **best free alternative** **BANKING AWARENESS** » If you're a little boggled, this handy free app explains some of the tougher banking terminology.

Camu

Add filters to your photos and videos



Photo-editing app Camu has finally made its way onto Android and we

couldn't wait to get our hands on it. There is a paid version but for the majority of users, the free version will provide sufficient trickery to add to your photos and videos. There are 10 filters for you to choose from and each offers plenty of variety, so whether you want to make your photos warmer, colder, retro or black-and-white, there is scope to do that. We also really like the fact that Camu offers you the ability to film scenes with all these filters as well, allowing you to channel your inner Hitchcock with black-and-white

» like this? try this!



Photo Editor pro

Photo editor that has loads of tools stretched along the bottom for easy access

footage or just lighten up a scene. Camu offers much more beyond the standard Instagram filters though. You can write on your photos in four different fonts, blur sections of the shot and zoom in to create stunning close-ups. All of these actions are really easy to perform and means that you can get extra creative with your shots in post production. The advanced settings in the top-left hand corner offer further ways to enhance your photographic creativity. The sideways teardrop sharpens up a section of the screen, making those classy pull focus shots effortless. There's also an intriguing mode that enables you to take a photo that is half the height of a normal shot, then capture a second that gets placed directly below it. We're

There are ten filter options, with more available if you pay for it

struggling to find a practical application for this beyond a landscape snap that just misses out a boring middle section, but it works an absolute treat and is something we've never seen



Camu offers a range of shapes, perfect for landscapes, portraits or Instagram style shots

before. It also lets you to take pictures in 4:3 and 1:1 ratios, which could save you a lot of cropping time. You get a lot of app for free with Camu and it's extremely easy to get started and use.

» specification

Price Free + IAPs

Designed for: Tablet & Phone
Requires Android: 4.0

» verdict

Completely user friendly and full of handy functions to enjoy getting creative with



Smart Volume Controller

Manage all your audio settings in one place



Android devices often make it a bit of a mission to find your sound settings, so this handy app condenses them all into one place. The Smart Volume Controller lets you set your ringtone, notification, media and alarm volumes with a simple slider. This is both quicker and easier to

visualise than in your device's settings. It also groups together the options for setting your phone to loud, vibrate or silent in the form of icons, which speeds up the process once again. This is a well put-together app that does exactly what it says on the tin which is nice. It's not exactly going to change your life but it will make the process of altering all your phone settings that much easier, especially if you are having to do it a lot when switching between work, home and social occasions. It's also free to download which adds to the appeal.

» Price Free

» Designed for Phone and tablet

» Requires Android 2.1



» best free alternative

VOLUME CONTROL + » A little more complicated in terms of design but Volume Control + does look awesome.

RAM Booster Ultimate Pal

Set your phone's memory free once and for all



AJK Labs has produced a RAM booster that looks good but doesn't do a lot.

Its selling point is that it can boost your available RAM by shutting down apps that eat up memory. It also has four modes, each with levels of ruthlessness when deciding what to abort. However, we noticed barely



» Price Free + IAPs

» Designed for Phone and tablet

» Requires Android 2.2



Flashchat

Easily keep in contact all around campus



Flashchat is a free messaging app that enables users to chat with others on the same Wi-Fi network. It is trying to fit into quite a small niche market by providing a service that connects people who are in the same 1km area but choose not to email, text, Whatsapp or, y'know, talk. One suggestion is students on their campus Wi-Fi, but that is a bit of

a stretch. It does work well, even if it is very basic. One benefit in the era of privacy invasion: all messages vanish when you disconnect from the network.



» Price Free

» Designed for Tablet & Phone

» Requires Android 2.3.3



VSCO Cam



Get in touch with the wider photo community

This app is really one for the photography fan in you. VSCO has brought together a huge community of photographers, all of whom are encouraged to upload their work to the app with a journal explaining the how, why and where behind the pictures. As you'd expect from an app of this type, it is gorgeously presented, with sweeping tiles and elegant typefaces. It will take you a little while to get to grips with the menu options as there isn't much by way of explanation, but once you do you're rewarded with a world of incredible photography and interesting stories. It's incredibly easy to import your photos onto the app and share on your personal VSCO page. If you are into discovering new photographers, this is definitely a superb free app that feels much more premium and worthwhile than scrolling through dozens of Instagram snaps of food and sunsets. It looks great, is easy to get involved in and is regularly updated to create a unique and rewarding user experience.



View and post your own photography easily with VSCO Cam

- » **Price** Free + IAPs
- » **Designed for** Phone and tablet
- » **Requires Android** 4.0



Humin

Organise your contacts book

With the alphabetical and recently called lists, it was generally assumed that phone manufacturers had cracked the address book. However, the folks at Humin disagreed and set about creating a more intuitive way of organising your contacts. Setting it up takes only a few minutes and once you've done it you can set about organising your Humin home screen. Scroll through your contacts list to make a small database of your most commonly called contacts. This puts your favourites list right at your fingertips, which is incredibly handy, especially if you're permanently attached to your phone and want to make calls with just a couple of taps and minimal scrolling. Directly below that is your recent contacts list, which pulls together incoming calls, outgoing calls and texts. Although favourites lists and call logs are fairly common, it's definitely a bonus to have both sitting on the app's home screen where you can access them in a flash

without jumping between screens. Humin syncs together all of your contacts from Google, Facebook and LinkedIn, but only after asking your permission and it says it doesn't use any of that information beyond what is needed to make the app work, so your data should be safe from marketing vultures. Syncing all this data builds up a raft of data about each contact, such as their phone number, workplace and the last time you were at the same Facebook-organised event, which is useful. The contact screen also gives you the options to call, text or email, so this app is very much a one-stop shop for all your communication needs. The scroll menu for finding your contacts is in no real order, despite looking neat with its tile format, and it would actually be handy if this were organised either in alphabetical or favourites order. Humin hasn't so much reinvented the wheel as refined it, but we have to give credit for the way it has made sorting contacts much easier.



Find your contacts easily by name or occupation

» specification

Price Free

Designed for Phone
Requires Android 4.0.3

» verdict

Performance

Design

Value

Excellent modernisation of the contacts book. Would definitely recommend it



» **best free alternative** **CONTACTS+** » Not only does Contacts+ combine all your contacts, but it also blocks spam calls and texts

Snapchat

Snapchat evolves once again



Snapchat is building itself up to be more than just a photo sharing app. First

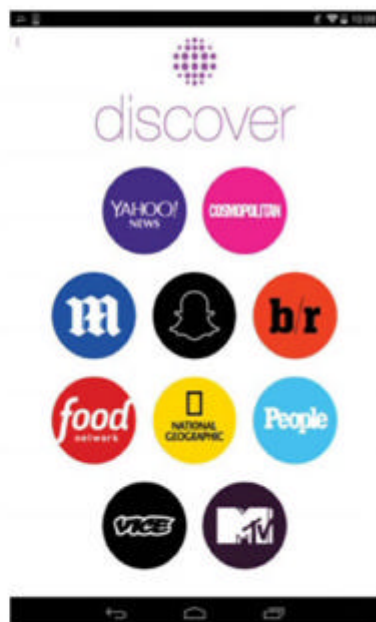
came the ability to chat to your contacts. Then came My Story and now it's Discover. One tap gets you to the home screen where you can find video and photo content from Yahoo!, Cosmopolitan, Mail Online, Food Network, Vice, MTV, People, National Geographic and Bleacher Report. This provides users with a rounded set of news, sport, entertainment and music news to enjoy. A swipe to

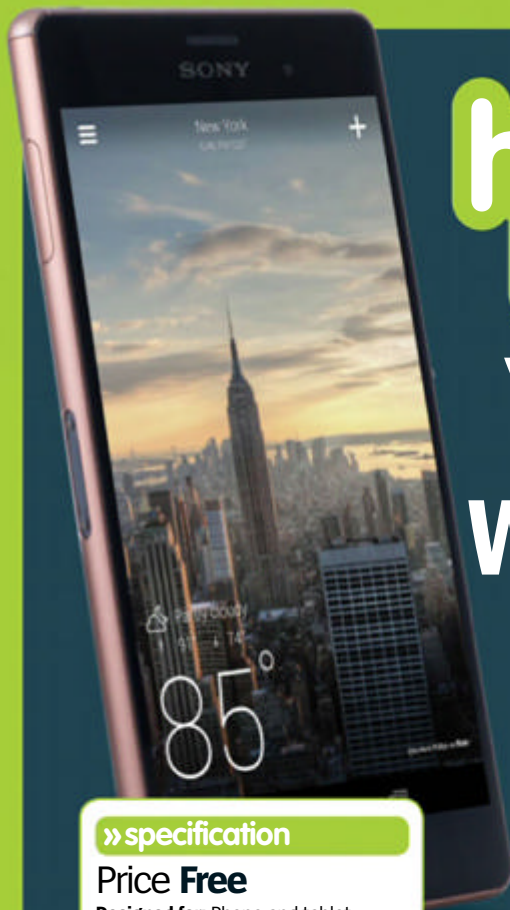
the left brings up a full page picture and a swipe upward lets you read that story. A couple of taps on the back button of your phone takes you back swiftly to the menu. All in all this is nicely put together and we hope we can customise it in the future, but until then we can't really see ourselves using it that much.

- » **Price** Free
- » **Designed for** Phone and tablet
- » **Requires Android** Varies with device



» **best free alternative** **BBC NEWS** » If you want news, entertainment, sport and music news, we can't really recommend anything other than the BBC





head to head

The weather forecast favourite takes on new challenger

YAHOO WEATHER VS WEATHER TIMELINE

Yahoo Weather has always been popular on the Play store, but Weather Timeline has stormed up the charts with its on-trend Material Design look. The new app uses multiple sources for more accurate weather reports, giving it both style and substance. Which should you download?



» specification

Price **Free**

Designed for: Phone and tablet

Requires Android: 2.3



» specification

Price **£0.99/\$0.99**

Designed for: Phone and tablet

Requires Android: 4.0

Yahoo Weather

Weather Timeline



Weather forecasts stretch as far as 10 days ahead, but also include hourly updates. Yahoo also has maps and information on wind, pressures, chance of rain, and sunrise/sunset times.



Photos of your location drawn from Flickr provide a backdrop to forecasts. Interactive maps offer insight, while animations of spinning turbines illustrate the wind speeds.



Yahoo offers six widgets, in a wide variety of sizes. The largest displays a five-day forecast, while the smallest only takes up a one-by-one slot and shows current conditions.



Smart Weather is a feature that enables you to forecast the weather for where your friends and family live by syncing with Facebook or your Yahoo Mail contacts.



All of the information you need is displayed when you open the app, however, a simple swipe upwards offers deeper insight. Swiping horizontally lets you switch between locations.

ACCURACY

PRESENTATION

WIDGETS

SPECIAL FEATURES

EASE OF USE

Drawing forecasts from a variety of sources for added accuracy, Weather Timeline summarises the next hour, the next 48 hours and the next week's weather.



Following in Lollipop's footsteps, this app has adopted a Material Design look. Displaying the forecast on simple cards, it's easy to understand at just a glance.



Weather Timeline includes five widgets. The most useful is one that includes a card stack to switch between forecasts for different cities.



A five-day forecast not enough for you? Timeline includes a 'time machine' feature to show you the forecast months and even years in advance.



Not over-packed with features, Weather Timeline is easy to operate and understand, even if its approach is unusual. Additional radar maps are available with a tap.



And the winner is...
YAHOO WEATHER

It is a very close call with both providing accurate and insightful forecasts, but Yahoo Weather just manages to fend off this challenger. While Weather Timeline has the hipper look, Yahoo Weather's mix of hyperlocal photography and intricate animations give it a polished feel.

Epic Heroes War

Build the most epic hero army of all time



If you're a fan of games like Pokémon or Street Fighter, you will probably get

hooked on Epic Heroes War, a new fighting RPG. Starting out as a lowly warrior with a few minions, you fight your way through a series of fantasy battles. Each victory earns you coins to spend on armour, weapons and your mini marauders.

Setting up takes under five minutes and then you're free to do battle in an imagined fantasy world. You have four attacks available, each offers something different, be it an attack from a distance, one that targets all enemies or just an epic smash. These take a while to reload so use them wisely. The battle mechanics are simple but there's



Powerful attacks can easily send your enemies running for cover



Build up your weapon store and army, and achieve Conquer targets

enough to differentiate each attack. This is a step up from the button-mashing world of Street Fighter, leaning more towards the tactical battling of Pokémon.

After each battle you can upgrade, giving you a rapid sense of progression. You also have to make tactical decisions on what items to equip. Too little defence leaves you exposed to attack, but not enough attack means you lose out on a bonus. The bonus mission option is a nice touch. The missions range from killing a certain number of enemies

to completing a battle without summoning a single helper or losing life. Successful missions earn you gems that help you later in the game. As with almost all free-to-play games, you'll progress faster by paying for coin and equipment packages, but you aren't stopped moving forward if you don't. An excellent game that looks good and plays well.

» Price Free + IAPs
» Designed for Tablet
» Requires Android 2.3



what we've been playing



Asphalt Overdrive Free

We're revisiting one of the first games we played on Android: Asphalt. Fast paced, awesome graphics and a succession of sublime motors, makes this a classic racing game.



Big Hero 6 Bot Fight Free

This ties-in with Disney's latest animated adventure. It's a classic match-em-up game but it is full of colour, cool characters and missions to make this extremely appealing to all ages.



Recommend a game...

» twitter @lgrobot



Kesselberg Legendary Racing

The Kesselberg run in three minutes



The Kesselberg is a well-known hill climb in the motor racing world. It's also

the scene for Kesselberg Legendary Racing, one of the most stripped down racing games you'll ever play. It's just you, a car and a twisty road. The controls take practice as they're completely invisible. Steer via screen taps and braking by tapping the bottom of the screen. However, it's



Keeping the car on the straight and narrow isn't so easy

easy to accidentally tap the brakes and head into a skid, and they can be unresponsive – an icon to help you see where the brake is would be helpful. The sounds are excellent, although the constant revving is unrealistic. With more visible and

responsive controls this could be a good game, if a bit limited.

» Price Free
» Designed for Tablet
» Requires Android 3.2



Words On Tour

Take a tour of the world in words



Zynga is one of the kings of the mobile gaming world and Words On Tour is their latest offering. They've edged away from the multiplayer angle of Words With Friends to create a single player challenge game. Travel round the world completing various tasks, such as collecting a specific amount of tiles in a set number of goes or completing a phrase, Wheel of Fortune style, by clearing letters in that phrase. The variety inside the levels is good and the difficulty ramps up with different letter grid designs making you work for your round-the-world ticket. We like the concept of the journey, though there's little to distinguish one country from the other bar regional phrases such

as "Fantastique!" It's bright and visually appealing to look at. Zynga has built its reputation on pick-up-and-play games and Words On Tour is exactly the kind of game you need for that spare five minutes, it's taxing without being impossible. The leaderboard adds a crucial competitive element that would otherwise be missing from the game, and you don't have that worry of being nudged by an impatient opponent – it is the ideal, stress-free travelling companion.

- » **Price** Free + IAPs
- » **Designed for** Phone and tablet
- » **Requires Android** 4.0.3



As you make your way across the globe, the puzzles get tougher

Cute, Evil & Strange

Is it really worth reinventing the classic game of Rock, Paper, Scissors?



Rock, Paper, Scissors was one of the simplest games ever

until the Big Bang Theory added Lizard and Spock into the mix. However, Mars On A Stick has changed the trio of eternal rivals to Cute, Evil and Strange monsters. Choose your monster and attempt to win coins and streaks by beating monsters controlled by AI or other players in a best-of-three Cute, Evil, Strange battle. The animations are good fun and it's a well made game, but the random nature of the game mechanics is frustrating. No matter how much you play this game, you won't be able to improve your skills. The option to battle anyone worldwide is nice, but when was the last time you played Rock, Paper, Scissors for fun? It's a decent game but lacks skill development.

- » **Price** Free + IAPs
- » **Designed for** Phone and tablet
- » **Requires Android** 2.3



Who will win the eternal contest of cute versus strange?

Crossy Road

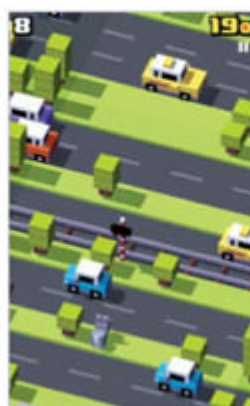
Frogger and friends enter the 21st century



Crossy Road answers the age old question 'Why did the chicken cross the road?'

– it crossed the road because you told it to. Much like Frogger from 34 years ago, your job is to see a range of farm animals safely across a succession of roads, lakes and train tracks. There's pretty much no let up because hesitating too much results in your character being carried off screen by a swooping eagle – a brutal message about the circle of life from Yodo1 Games. A simple flick sends your critter scampering across the screen dodging cars, trucks and trains. This game is nothing more or less than you would expect. It's fun and frustrating but that's purely down to your own abilities, as the game mechanics work perfectly and there is always a gap as long as you are brave enough to take it. We loved the range of animals and prizes on offer in this basic but very entertaining game.

- » **Price** Free + IAPs
- » **Designed for** Phone and tablet
- » **Requires Android** 2.3



Run rabbit run! An endless series of hazards for collectable animals to cross

quickhits

5 top apps for...
Animated gaming



Looney Tunes Dash Free + IAPs

Keep Bugs Bunny away from Elmer Fudd in this pursuit game. It's a fun game in the style of an endless runner, that has stages to give you some rest.

Swinging Stupendo Free + IAPs

This circus-based game is very much in the style of Flappy Bird but with more elaborate graphics. Excellent controls, great audio and the chance to occasionally take a break!

Firewater Cowboy Chase Free + IAPs

This side-scrolling endless runner sees you as a cowboy who is escaping from a group of Native Americans, picking up coins, speed boosts and trying to avoid those prickly cacti!

Copter Survival – An Adventure Free

This side-scrolling adventure gets you to pilot a helicopter through a littered underground cave. It is simple and not too frantic.

Space Shuttle Flight Free

There are echoes of Asteroid here as you pilot a space shuttle through an asteroid field, only this time you've got no weapon to defend yourself. Looks really good and plays well.

Mr Ninja Fever Free + IAPs

The tiny martial artist, Mr Ninja, leaps from planet to planet capturing aliens along the way. Fast paced, really good fun and character progression.

Android magazine™ BUYER'S GUIDE

Discover the best smartphones, tablets and accessories to buy in our top ten charts



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THE LATEST ONLINE INCLUDE... ASUS ZENWATCH » ACER CHROMEBOOK 13 » LG G FLEX 2

TOP 10 SUPER SMARTPHONES THE BEST FLAGSHIP AND MID-RANGE ANDROID PHONES ON THE MARKET

1		Moto X (2014) While the previous Moto X had been something of a flagship underdog, the second-gen model has emerged as a must-have device. A slightly larger screen size at 5.2 inches, metal chassis and the option to personalise your handset before you buy with the Moto Maker program, while remaining cheaper than its rivals and with a near stock experience, enables Motorola to steal our top slot. The only downside is that the new Moto X still lacks a microSD slot to expand the memory.	£325  See issue 45	
2		Sony Xperia Z3 Despite being made of reinforced glass and aluminium, and being waterproof, the Xperia Z3 is a very stylish all-terrain device and weighs little in the hand. The 20.7MP camera (also waterproof) is one of the best we've seen on a phone and the PlayStation Remote Play feature will appeal to gamers.	£383.33  See issue 44	
3		LG G3 Pipping Samsung, HTC and Sony to the post to launch the first next-gen device, the LG G3 has won us over with its pin-sharp QHD screen, laser-focused 13MP camera and lightning-fast processor. However, its faux metal plastic casing is disappointing, as is its mono speaker.	£325  See issue 41	
4		HTC ONE (M8) A combo of a completely chrome unibody and a big, bright screen makes HTC's flagship phone one of the best-looking on the market. A pair of BoomSound speakers, FM radio, infrared TV remote and quick media-casting options result in a powerful and portable entertainment system.	£391  See issue 37	
5		Samsung Galaxy Alpha Mimicking the iPhone's chamfered metal case, there is no denying the slim and sleek Alpha is Samsung's best-looking phone ever. Overall performance is strong and the advanced HDR Live camera feature is a plus. But even with a new set of power-saving tools, the battery is a bit small.	£249  See issue 43	
6		Samsung Galaxy Note 4 To look at, the Note 4 is a modest update on the Note 3, with a same-size display and continued emphasis on using the S Pen stylus. However, it has been revamped in almost every area. The TouchWiz interface handles better than ever, it has a 16MP camera and has an extra-long battery life.	£458.33  See issue 45	
7		Nexus 6 Google's first phablet, the Nexus 6 is larger than either a Galaxy Note 4 or OnePlus One. This makes it an awkward fit for one-handed use but the gigantic 5.9-inch QHD display looks fantastic. It also has a super-fast processor and 3GB RAM for zippy use, along with a commendable 13MP camera.	£415.83  See issue 47	
8		Samsung Galaxy S5 With the launch of the S6, the Galaxy S5 is now a last-gen device. It's specs are behind those of the new breed like the Nexus 6 and Xperia Z3, but its range of fitness features and thumbprint scanner mean that it is still an impressive handset, despite its disappointing plastic chassis.	£336.33  See issue 38	
9		Google Nexus 5 As a Google product, the Nexus 5 is a long-term investment as it is guaranteed to have first pick of future updates to the Android OS. However, though it still performs well, in terms of specs – in particular the processor, camera and battery life – it's a lot less competitive than it used to be.	From £299  See issue 32	
10		Xiaomi Mi4 While OnePlus is the bigger name in Chinese exports, Xiaomi is selling millions of units in its home country. The Mi4 manages to undercut the OnePlus One on price while maintaining impressive build quality. Like OnePlus, Xiaomi uses a non-standard OS but it's equal to KitKat 4.4.	From £200  See issue 44	

In case you missed it... **Selfie essentials** Read more in issue 48

Selfy camera shutter case

» Price £29.99/\$39.99
 » Website iluv.com

This Galaxy S5 case includes a removable remote control that can activate your camera shutter for improved selfies. Unfortunately, it does add quite a bulky look when it's on your handset.



Olloclip 4-in-1 photo lens

» Price £59.99/\$69.99
 » Website ollocip.com

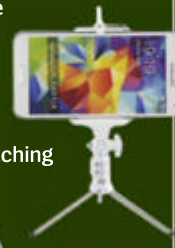
Clipping onto the top of your phone camera, you can use the Olloclip to switch lenses to add effects to your photos. This includes a fish-eye and a wide-angle lens that magnifies the image up to 10x and 15x.



Selfie Pods selfie stick

» Price £34.99/\$TBC
 » Website selfiepods.co.uk

Part selfie stick, part tripod, the stick extends to one metre for better self-portraits. The retractable tripod is handy for photo shoots and also watching videos hands-free.



Eye-Fi Mobi SD card

» Price £33.33/\$49.99
 » Website www.eyefi.com

Not so much a phone accessory, as one for your camera, plug this SD card into your old digital camera to give it its on Wi-Fi field. Then you can access your camera's photos easily on your phone and upload them online.



Buyer's Guide

TOP 10 BUDGET BUYS IF YOU'RE SHOPPING FOR A SMARTPHONE ON A SHOESTRING, CHECK OUT THESE LOW-COST MOBILE MUST-HAVES

1		Moto G 4G The Moto X's budget cousin set new standards for the low-cost phone with support for 4G. While it's made of a cheap plastic, the Moto G has not compromised on screen quality, which is 4.5 inches of sturdy Gorilla Glass 3 and offers 1280x720 pixels. The small memory can be boosted thanks to a microSD slot. Running near-stock Android, Motorola has confirmed Moto G 4G's next upgrade will be Lollipop, ensuring future-proofing for some time despite the launch of a new Moto G (2014) model.	From £120.80  See issue 42
2		Moto G (2014) While the second-gen Moto X has won us over, the Moto G (2014) has fallen short of the top due to a lack of 4G despite the similar price point. However, this is a trade-off if you would rather have the slightly larger 5-inch screen or the useful addition of a dual SIM.	£120.80  See issue 44
3		Moto E Available for under £100, SIM-free and no contract, the Moto E is the ultimate no-strings-attached smartphone. With a sturdy, splashproof case, 1980mAh battery that will go the distance and microSD slot to expand the tiny 1GB memory, the Moto E is an impressive build that won't break the bank.	£78.33  See issue 40
4		Samsung Galaxy Ace 3 While Samsung's high-end handsets get a lot of attention, the company has a much broader range. The Galaxy Ace 3 is now on its third incarnation and at £81 it sits neatly in the budget to mid-range category. This is a 4G handset with a distinctive Samsung look and features.	£81  See issue 34
5		EE Kestrel Only available from the EE network, its own-brand Kestrel phone is offering 4G data speeds at a very reasonable price. Produced by Huawei, the handset has a curved design which gives it a unique flair. Good battery life ensures it can handle its quad-core engine and 4G's inevitable drain.	£100  See issue 40
6		HTC Desire 510 At 4.7 inches, with a budget price tag and LTE connectivity, this is HTC's answer to the Moto G 4G. However, cost-saving measures such as a 5MP camera and poor screen quality mean it just can't compete. HTC's Sense 6 UI is still here though, offering one of the best custom interfaces for Android.	£119  See issue 44
7		Acer Liquid Z5 A good-looking phone with tapered edges, the Acer Liquid Z5 offers a stylish alternative to most black brick handsets. Its innovative Float Apps interface also makes it easy to multitask apps. However, humdrum specs, like a low-res screen, leave it ranking low in the competitive world of budget phones.	£95  See issue 39
8		Nokia X The launch of the slimmer, faster Nokia X2 has driven the price of the Nokia X down, but this original Microsoft-Android hybrid still deserves attention. A bestselling handset in India and Pakistan, it has great build quality with a tough polycarbonate chassis available in a range of colours.	£79.90  See issue 38
9		Alcatel OneTouch Idol Mini The understated style and low-end specs make the Alcatel OneTouch Idol Mini a great option for first-time or light users. SwiftKey as the default keyboard is a welcome addition. However, it's hard to justify the excessive bloatware on a phone that only has 4GB storage.	£79.99  See issue 39
10		Huawei Ascend Y300 Only offering a dual-core processor is going to damn this Huawei in the eyes of many potential buyers, but it shouldn't be dismissed quickly. The well-reviewed Ascend Y530 is only a slight spec upgrade on the Y300 but is around double the price. Ideal for young or cash-strapped users.	£40  See issue 28

In case you missed it... Must-have news apps Read more in issue 47

Watchup: Your Daily Newscast » Price Free



If you prefer to watch rather than read the news, Watchup is ideal. Providing a platform to view YouTube newscasts from local, national and international sources, you watch endlessly rolling news or set alerts to view videos at your preferred time of day.



The Guardian » Price Free + IAPs



The redesigned app for The Guardian newspaper has a slick UI and some clever features, including the option to personalise the front page with the types of stories that interest you most. You can also save articles for offline reading.



Flipboard » Price Free



This magazine-style app sucks in news from your favourite websites and social networks, and presents them in a glossy, interactive layouts. You can even cherry-pick your favourite stories and produce your own digital fanzine.



Yahoo News Digest » Price Free



For those of you who are too busy to trawl through news sites, Yahoo's app offers twice-daily cliff notes for the day's top stories. Articles are attractively laid out with body text usefully broken up by insightful infographics.



TOP 10 BEST TABLETS

WHETHER YOU'RE LOOKING FOR A SEVEN- OR TEN-INCH DISPLAY, THESE ARE THE TOP TABLETS AVAILABLE ON ANDROID

1		Sony Xperia Z3 Tablet Compact With its 8-inch screen and premium price tag, Sony is pitching the Z3 squarely against the iPad Mini in a bid to compete with its rivals. Weighing just 270g, it is slim and slender with a stylish minimalist design that belies the blazing processor and 3GB RAM under the hood. Its Triluminos display can give Samsung's Super AMOLED screens a run for their money and works fantastically with Sony's PS4 Remote Play feature so you can enjoy console-quality games on the go.	From £284  See issue 46	
2		Google Nexus 9 A mighty Nvidia Tegra K1 processor and 3GB RAM mean that even running the most graphic-heavy games won't slow this 64-bit tablet down. The built-in BoomSound speakers also offer great sound quality, making Google's new tablet an all-round media consumption device.	From £319  See issue 45	
3		Samsung Galaxy S Tab 10.5 Ultra thin and ultra bright, colours look vibrant and details distinct on this powerful Super AMOLED screen. Samsung's iPad slayer also puts many other Android tablets to shame, with a multi-window mode to display several apps at once and octo-core processor ensuring lightning-fast performance.	From £358.33  See issue 43	
4		Sony Xperia Z2 Tablet Arguably one of the most portable 10-inch tablets available, the Xperia Z2 Tablet is waterproof and can support a SIM card for 4G use. It is also surprisingly thin and light to carry, and includes power-saving modes to ensure longer battery life. Reasonably high-spec, it has a whopping 3GB RAM.	From £349  See issue 39	
5		Google Nexus 7 (2013) Recently superseded by the Nexus 9, the Nexus 7 still offers a stock Android alternative for the mini tablet market, with the added benefit of running the latest Android OS and being first in line for upgrades. The downsides are its last-gen specs and lack of a microSD slot.	From £199  See issue 29	
6		Tesco Hudl 2 This sequel to the supermarket chain's own-brand tablet can't compete with premium models, but sets a new benchmark for budget tablets. Upping the display size from 7 to 8.3 inches, the Hudl 2 also runs Android 4.4.2 KitKat and can handle anything you throw at it thanks to an Intel Atom processor.	£129  See issue 44	 GOING UP
7		LG G Pad 8.3 A well-rounded tablet, the LG G Pad 8.3 offers solid specs with a selection of impressive built-in apps. These include Polaris Office so you can write documents on the go, and QPair, which shares your smartphone notifications to your tablet so you never miss important updates.	£199  See issue 40	 GOING UP
8		Samsung Galaxy TabPRO 8.4 Wi-Fi The smallest tablet in Samsung's collection, the TabPRO 8.4 proves that good things do come in small packages. A stunning 359ppi screen puts the Nexus 7 to shame, though we'd prefer higher-quality speakers. However, an 8MP camera and intuitive interface are good compensation.	£199  See issue 38	 GOING UP
9		Alcatel OneTouch Pixi 7 This 7-inch tablet can't be faulted for its price, which is one of the most affordable on the market. It runs Android KitKat 4.4, offers 1080p video playback and has a triple-core processor. It's also incredibly lightweight for added portability, but lacks memory with only 4GB RAM.	£64.99  See issue 48	NEW ENTRY
10		Amazon Fire HD6 Despite only having a 6-inch display and a budget price tag, the Fire HD6 is a decent tablet for watching movies and listening to music. However, the inferior forked OS and lack of third-party app support make the Fire HD6 hard to recommend for regular let alone heavy-duty use.	£79  See issue 46	

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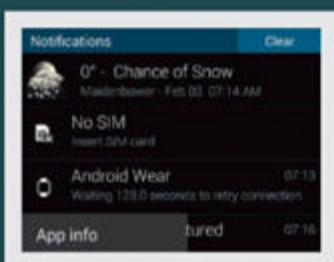


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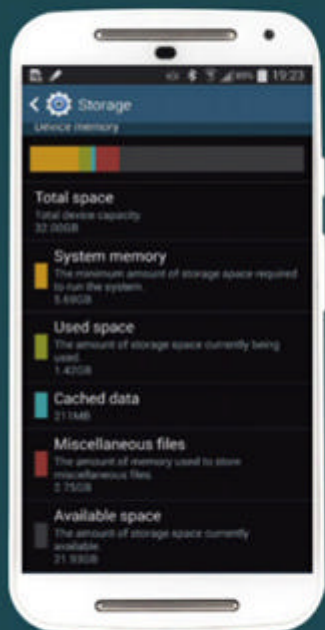


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Did you know?

When you next receive a notification from an app and want to stop them, simply hold down your finger on the latest one that appears. Then tap App info and untick the Show notifications option in the next screen. This is the easiest way to quickly stop them.



All Android devices require space to run the operating system in

There's an insufficient memory warning, but I have space?

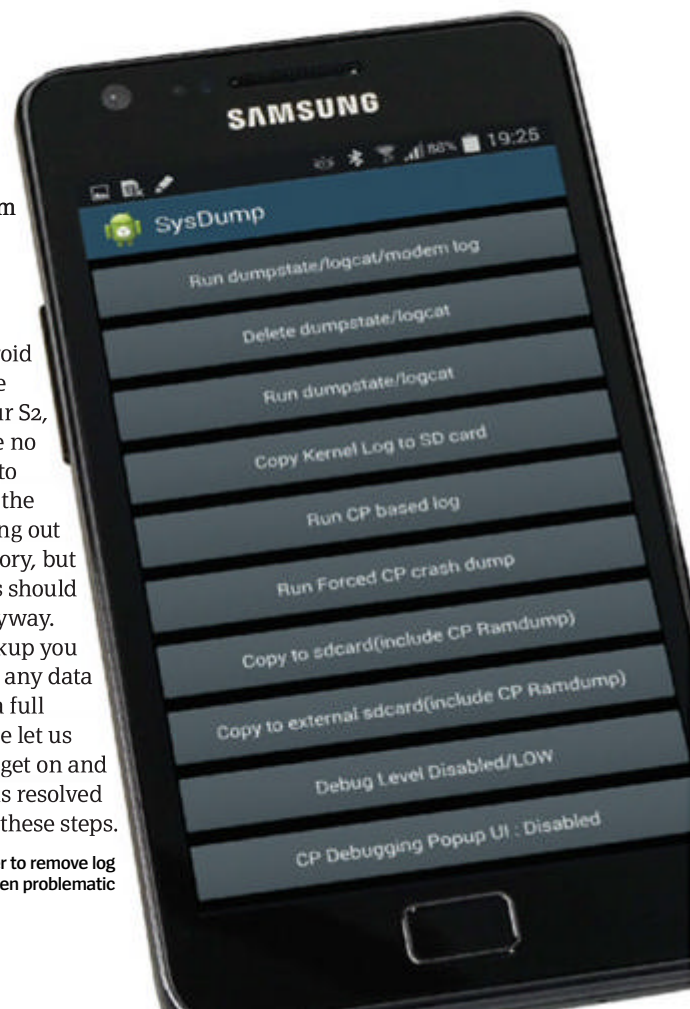
“My husband's Samsung Galaxy S2 keeps saying that there's not enough storage space or insufficient memory whenever we try to download an app. It's so frustrating because we know there's plenty of memory on his phone. I've tidied up the apps and moved some (those that could be moved) over to his new 32GB SD card.”

Shirley McKendry

A Hi Shirley. When you say that you have plenty of memory available, it would be useful to know exactly how much. The Android operating system will require at least 10% free to operate which in some cases could mean that going below 1GB of free space can cause problems. If this is not the case and you really do have a lot of space, try going to Settings>General>Storage and tap the Cached data section to delete the current cache. Also, go to the Phone app and dial *#9900#. On the screen that appears, tap 'Delete dumpstate/logcat' and confirm the action. This will delete the data files and you should see no adverse reaction occur because of this. You can now try to download apps again and hopefully it will work fine. If you are still having problems and there is a lot of free space available, we would have to

reluctantly suggest a full reset to see if there is a system issue causing this to happen. Provided you have the latest version of Android that is available running on your S2, there should be no reason for this to happen unless the phone is running out of system memory, but the above steps should resolve that anyway. With a full backup you should not lose any data even if you do a full reset, but please let us know how you get on and if the problem is resolved after following these steps.

You can dial a number to remove log files which are often problematic



Ask your questions

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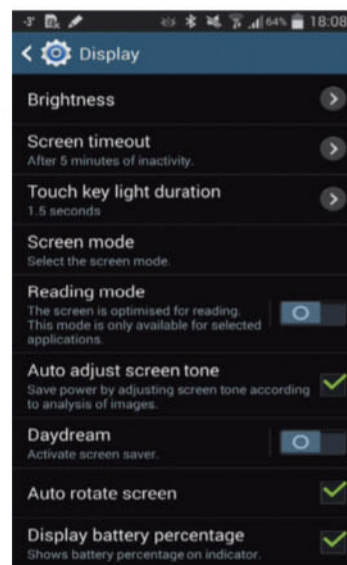
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Send your questions for our team of
experts to tackle

I can't turn off my screen when it's charging!

"Why does my Galaxy screen turn on and often stay on while it is charging? I have looked everywhere for the settings to change this and cannot find them and it gets quite annoying at night when I am trying to sleep!" **Andrew Caves**

A **Hi Andrew.** If you are using your Galaxy in a normal way, there is no reason for the screen to turn on and stay on while charging, but it can happen if a particular developer option is enabled. If you have already set up developer access by tapping the build number in Settings multiple times, there will be an option listed called Stay awake. If this is ticked, the Galaxy screen will stay on while charging, so it is worth going to Settings>General and seeing if Developer options exist. Now, if you do not have Developer options enabled and the problem is still

there, you could enable them and make sure the Stay awake option is unticked. It sounds bizarre to turn on the options that can cause the problem but it is likely to work, so go to Settings>About device and tap the Build number section until Developer options are turned on. Also, make sure you are using the charging cable that came with your Galaxy and plug it in to a wall and not a computer. It is possible that alerts or activity on a computer can turn on an Android phone screen when it is not required. Finally, as a double check go to Settings>Display>Daydream and make sure that this option is



There are no standard settings to keep the screen on while charging

turned off as well. The screen will turn on when charging reaches 100%, but it should turn off very quickly afterwards so hopefully one of the above solutions will work for you.



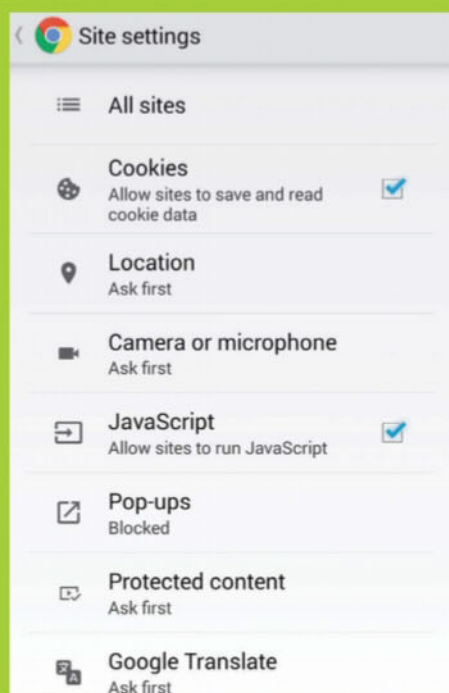
Developer options let you tweak your Android device in unusual ways

hints & tips

Get more from your Android phone with our handy hints

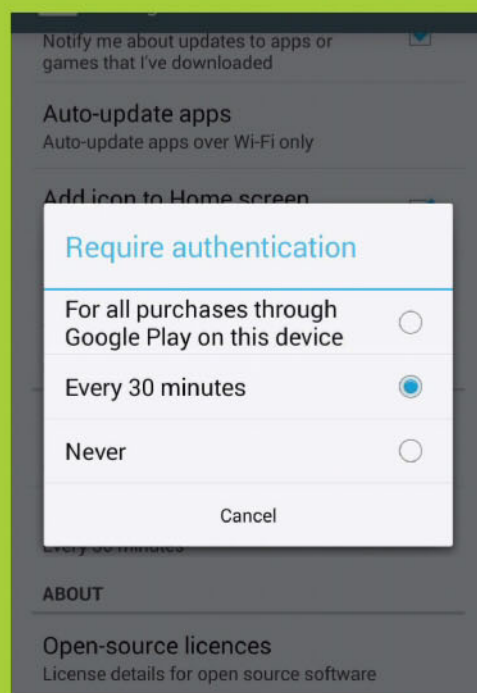
Change Chrome site settings

1 The quickest way to tell Chrome how to utilise every site you visit is to go to Settings in the app and select Site settings. Here you can manage cookies, JavaScript and many other features.



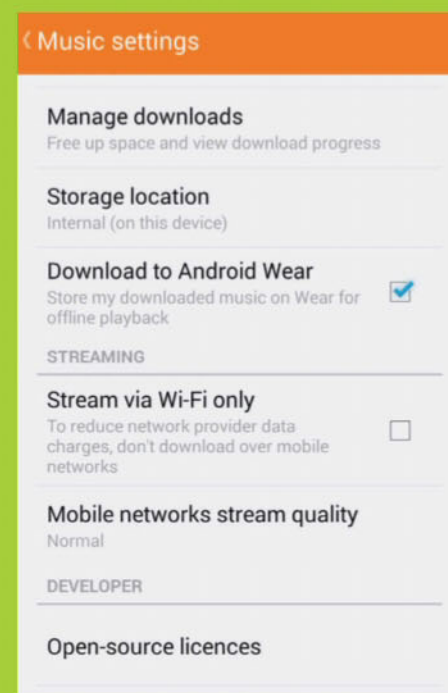
Stop unwanted purchases

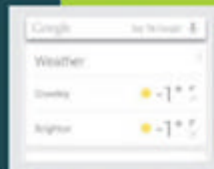
2 You can stop unwanted purchases from Google Play by going to Settings and changing the 'Require authentication for purchases' option to All. This means you will enter password for every new purchase.



Music on Android Wear

3 In Google's Play Music app, you can download music to your Android Wear watch automatically. Go to the Play Music settings and tick the 'Download to Android Wear' option, but be aware of your memory.





Did you know?

If you don't use Gmail and want your emails scanned so Google Now can track packages and offer insight from your communications, set up a forward so all your emails are sent to Gmail. It's in the background so you can still use your email.

Why does my music pause randomly?

My phone keeps pausing music when it is playing, but it happens randomly and usually when I am carrying it in my hand or in my pocket. Any ideas what could be causing this because it is driving me mad!

Grace Arnold

A **Hi Grace.** This must be very annoying but there should be a simple solution and we'll talk you through a few options. First up,

Hardware is usually the cause of music playback problems

make sure it is happening truly randomly and not just on certain music tracks – we want to avoid corruption in the tracks themselves. The next thing to check are your headphones, to rule out the possibility of a broken connection which is causing the headphone control to send a command to your phone. If your phone has motion or proximity sensors enabled, try turning these off, because it could be that you are accidentally sending instructions to your phone when you don't want to and some of these will pause the music immediately. There really can be no other reasons attributable to this problem and we're sure that one of the above answers will resolve it.

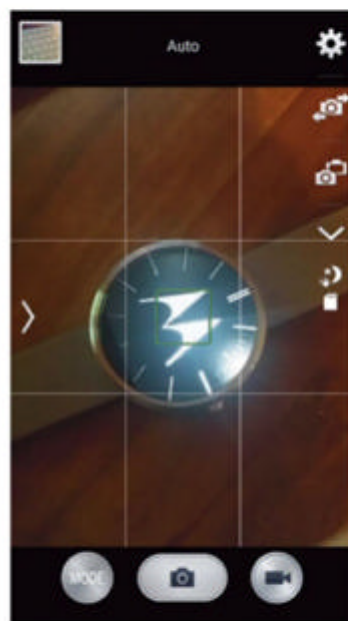
My phone camera cannot focus!

Can you help me? I have recently bought a Galaxy S5 and it's a great phone but I'm struggling with the camera. No matter how hard I try, more often than not I can't get it to focus on objects and it gets even worse indoors. Do you think the camera could be broken?

Mary Elphic

A **Hi Mary.** It is indeed possible that there is a problem with your camera but we would like to try a few things first to ensure that it isn't something more generic. Phone cameras, and especially those from

Samsung, tend to be quite complex and they do require a little work to get the best quality snaps. When you are aiming at an object,



You are as responsible as the camera for focussing correctly

particularly in low light, you need to take note of the focusing square in the centre of the screen. It changes colour as you move the phone and works as a good indicator as to how well focused the lens is. If it turns green you should end up with a good quality image but you can also see on the screen how clear the photo will be. If you are too close to an object you may see the camera focus perfectly and then go blurred again, which means that you need to step back a little to bring it perfectly into focus. It takes patience but with a bit of practice your shots should improve a great deal.

My entire iPhone on Android?

Is there an easy way for me to transfer every important piece of data on my iPhone to my new Galaxy Note? I use most of the Google services anyway so email and calendar entries are covered, but I would like my text messages, call logs and media to be moved over as well. I'm not sure that I can save my texts? **Jean Drees**

A **Hi Jean.** Recently, the big Android phone manufacturers have realised that it's important for people to keep their data when they upgrade devices and there are various official tools which let you move your information in one go without spending hours messing about with individual files and settings. If you want to move your iPhone data to a Galaxy Note, go to bit.ly/18V3A7i to take advantage of the Samsung Smart Switch software which can be used to move every piece of data from an iPhone backup to your new Galaxy Note. The service is very complete, you will save time using it and hopefully our step by step will be all you need to complete the process for your iPhone to be in your Galaxy Note.

Many phone manufacturers offer clever switching software



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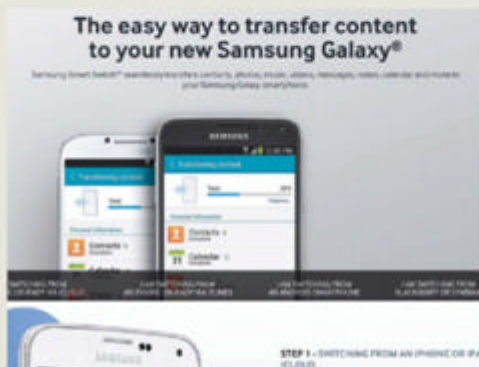
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1 Select your transfer mode

Back up your iPhone in iTunes, or to iCloud if you prefer, and then go to bit.ly/18V3A7i and select the type of transfer you want to undertake. There are options available for iPhone, Android phones, BlackBerry and Symbian devices. Once you have made your choice, go to the next step.



2 Make a new connection

You should now connect your phone via USB to your PC or Mac. It is quite possible that your phone will not be seen and if this happens, look for the Install Driver option at the top. Also if you have Android File Transfer installed, you may need to uninstall it to make Samsung Smart Switch work.



3 Choose a backup file

Once the connection has been made, click the bottom-left box and select the latest backup file. The list can be very long and confusing if multiple phones connect to the same computer, so make sure that you are careful when making your selection. You can now move to the next step.



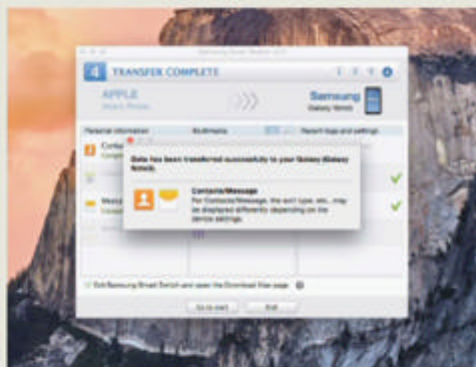
4 Be very patient

The next step involves the Smart Switch software analysing the backup files and deciding what can and can't be transferred. It's worth going to do something else while this process completes because it can take many minutes to finish. In our tests, more than ten minutes isn't unusual.



5 What to move?

You can now choose what you want to transfer to your Android phone. In theory you should see all the basics like contacts and calendar entries, plus text messages, call logs and even alarms. Be aware of space limits before moving music, photos and videos though.



6 The transfer is complete

When the transfer has finished, which can take some time if a lot of media has been selected, you will see a confirmation message detailing exactly what has been moved. If errors occurred, these will also be listed so that you can look at alternative ways to complete the transfer.

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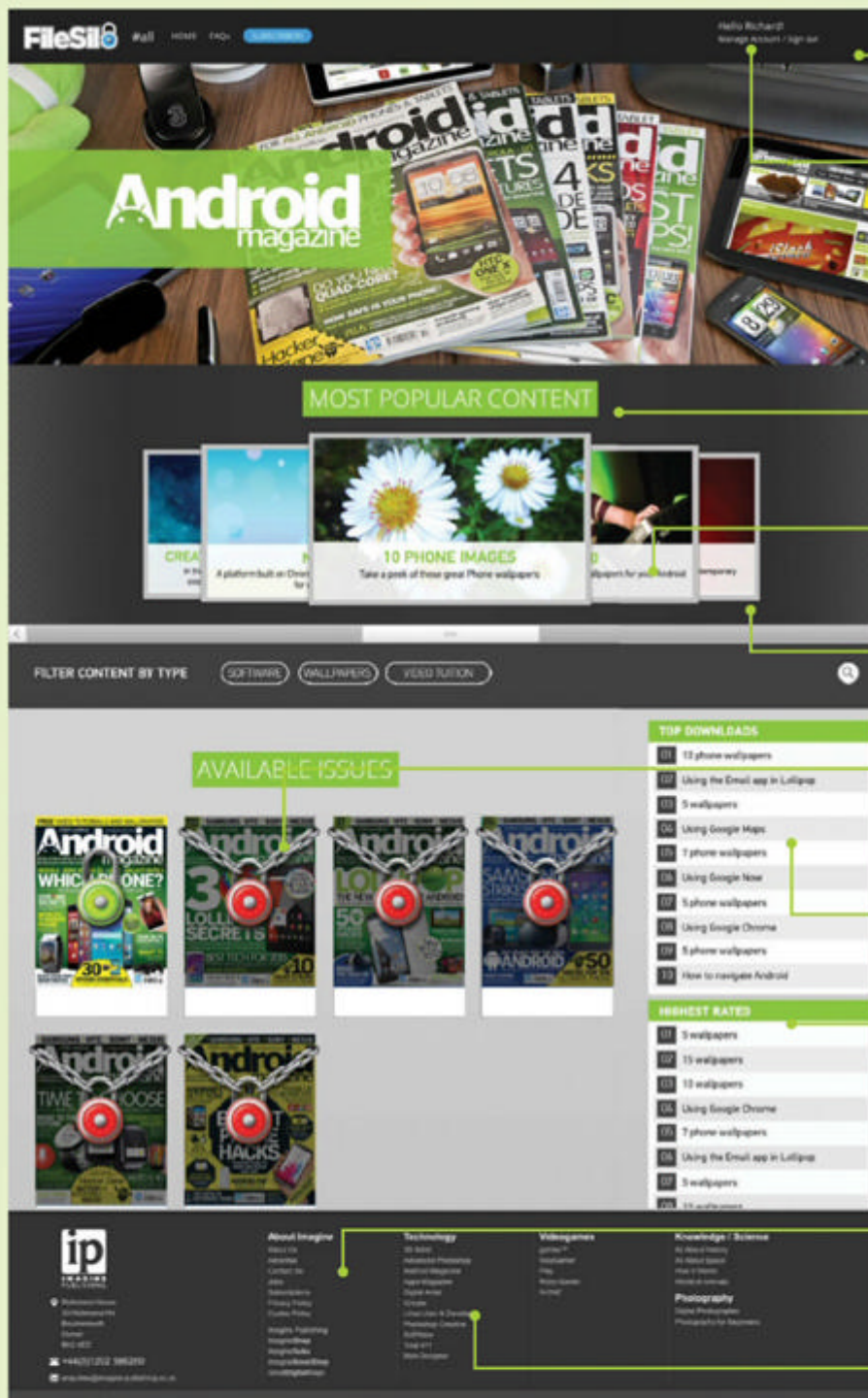
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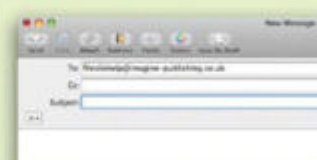


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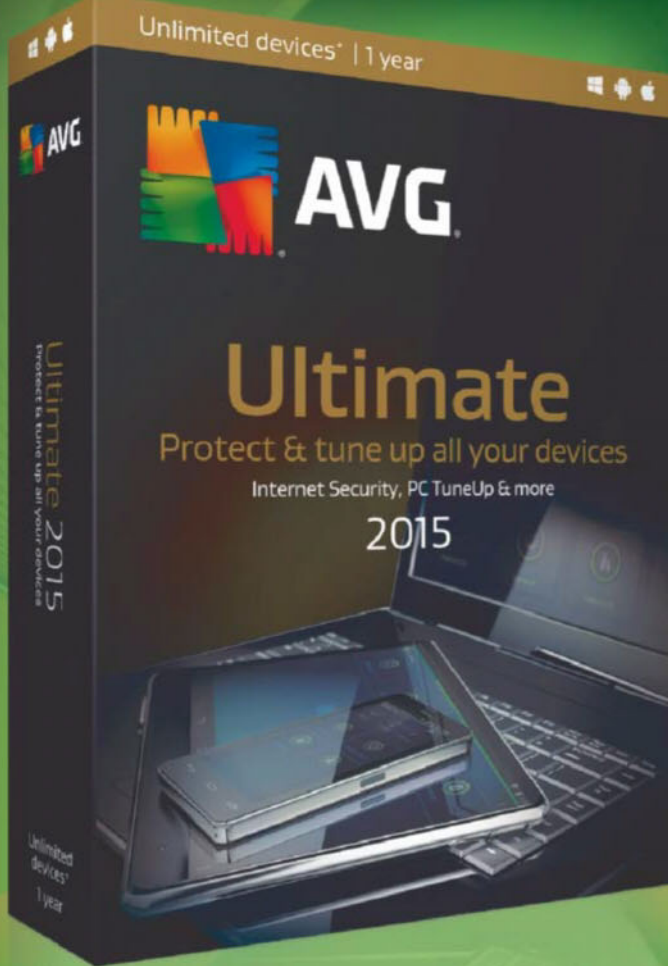
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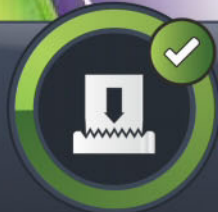
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